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The Capability of Apple Growers in Western Australia to Meet the Needs of Downstream Market Intermediaries: A Case Study

Nolila Mohd Nawi

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Declaration

This thesis contains no material that has been accepted for the award of any other degree or diploma at any university.

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made.

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Abstract

In this study of the Western Australia apple industry, a pluralistic methodology was employed to provide an economic and social evaluation of the various trading relationships between growers and their preferred downstream market intermediaries. Rational economic theory suggests that growers will choose to interact with those downstream customers who offer the highest prices. However, it is apparent that growers prefer to consign fruit to a number of different markets and different customers, in order to minimise risk. In selecting those downstream market intermediaries with whom they will transact, growers recognise that in order to conduct business, they must first satisfy the needs of their downstream customers. While the need to maintain a consistent supply of good quality fruit is paramount, this can result in a significant increase in costs and additional investments in infrastructure. As there are significant economies of scale in the production and subsequent packing, grading and storage of fruit, smallholder growers may find that it is more cost effective to sell the fruit they have produced to fruit packers. Furthermore, growers prefer to transact with those market intermediaries they trust. Trust is enhanced by the willingness of the market intermediary to share risks and market information in a timely fashion and to refrain from opportunistic trading practices. Nevertheless, given that growers are more certain of their costs than their returns, they may choose to transact with some market intermediaries, even although there is minimal trust in the exchange and they are subject to the exercise of coercive market power. In particular, many of the larger growers find it necessary to transact with the supermarkets in order to dispose of the volume of fruit they have available cost effectively.

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Abbreviations

The following abbreviations are used in the text of the thesis:

AAPGA – Australian Apple and Pear Growers Association
ABS – Australian Bureau of Statistics
APAL – Apple and Pear Australia Limited
DAWA – Department of Agriculture, Western Australia
DOA – Department of Agriculture, Australia
HAL – Horticulture Australia Limited
PMC – Perth Market City
RIRDC – Rural Industries Research and Development Corporation

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Western Australia (WA) produces a wide range of horticultural commodities including fruit, vegetables, flowers, nursery products and wine. Apples are the most important fruit crop produced in WA. In 2003, some 38,368 tonnes of apples were produced, with an estimated value of some AUD 28.4 million (HAL 2004).

Apples are primarily grown in the southwest of WA in a broad arc from Perth to Albany. The main apple growing regions are Donnybrook, Dwellingup, Manjimup and the Perth Hills area. Fruit is harvested from February to May and consigned to either the domestic market for consumption or processing (as juice), or to the export market. While exports are significant (WA accounts for around 10 percent of Australia's total apple production and in 2003 more than 26 percent of the production was exported), phytosanitary regulations prohibit the import of fresh apples into WA (Douglas 1995). This means that the only apples available in the domestic market are locally produced.

Although a favourable growing climate, abundant water and good soils make WA an ideal place to grow good quality apples, price competition from China is suppressing market opportunities for WA apples in the major export markets (Malaysia and Singapore). Furthermore, Australia is not price competitive compared to other Southern Hemisphere competitors including Chile, New Zealand and South Africa. As the volume of exports has fallen from 5,604 tonnes in 2003 to 2,606 tonnes in

2004, greater quantities of apples are being placed on the domestic market. As the apparent consumption of apples has fallen from 16.0 kg in 2000/01 to 13.3 kg per capita in 2001/02 (HAL 2004), wholesale prices in the domestic market are generally declining.

With falling returns, the viability of many small orchards is being put under increasing pressure. Not only is the number of fruit producers declining (Agriculture Forestry Fisheries 2001), but changes in the distribution channel are further eroding grower returns. As the supermarket chains become increasingly dominant, with fewer buyers in the market, growers have less choice to whom they can sell their fruit and they become more susceptible to the exercise of coercive market power by the buyers.

Even in the traditional, highly fragmented supply chains that are typical of the fresh produce industry, in the absence of any effective mechanism for price determination, most apple producers believe that market intermediaries have taken advantage of their poor bargaining position (HAL 2001). Many growers believe that by transacting directly with retail buyers they can increase their net profit. However, Kohls and Uhl (2002) demonstrate that while growers can eliminate some market intermediaries, they cannot eliminate the marketing function, which often means increased costs for producers who pursue alternative marketing arrangements. Furthermore, numerous decisions are made within the fresh produce marketing systems which influence the quality, quantity, variety and costs of production as well as the prices and profits derived from the produce.

Kohls and Uhl (2002) recognise that market intermediaries; (1) specialise in value-added activities which enables growers to specialise in

agricultural production; (2) specialisation is marked by economies of scale which means that the handling costs fall as the volume of products handled increase; and (3) market intermediaries can reduce market search costs and transaction costs.

To reduce transaction costs, growers may engage in relationship marketing. According to Sheth and Parvatiyar (1995), a paradigm shift from transactional marketing to relationship marketing is associated with the increased profitability of retaining long-term trading partners. Hutt and Speh (1998) indicate that relationship marketing focuses all marketing activities on establishing, developing and maintaining successful exchanges with preferred trading partners. From the grower's perspective, they can benefit from relationship marketing through the development of trust which can reduce risk and uncertainty currently present in their transactions with their trading partners (Batt 2003b).

With the shift in the marketing of fresh produce from the traditional wholesale markets to direct purchasing by large retail buyers including the supermarkets, growers must be able to make informed decisions in selecting their downstream trading partners. By recognising the functions that market intermediaries perform in the supply chain, growers can match their capabilities with their downstream customer's needs. In many cases, this will require them to adapt their product offer to meet a specific customer's requirements. Not unexpectedly, growers will select those market intermediaries who deliver the highest price, but the decision may be moderated by the quantity of product the grower has to sell and the likelihood of retaining the customers business in the long run (Batt 2003).

1.3 Objective of the study

The key objective of this research is to determine the economic and social variables used by WA apple growers' in selecting those downstream market intermediaries with whom they will transact.

The specific objectives of this study are to identify:

1) the institutional actors in the WA apple supply chain
2) the transaction costs faced by participants in the WA apple supply chain.
3) the gap between what growers want and receive from downstream market intermediaries
4) the gap between what market intermediaries want and receive from upstream suppliers
5) the nature of the long-term relationships between WA apple growers and their downstream market intermediaries
6) the nature of the long-term relationship between market intermediaries and their upstream suppliers

1.4 Significance of the study

This study is expected to help or facilitate the grower's choice in deciding to which market intermediaries they will sell their produce. Even although most growers perceive that they can achieve greater profits through bypassing market intermediaries, there are certain marketing functions that need to be performed. The aim of this thesis is to provide a better understanding of the important social and economic variables that are faced by the growers in selecting their downstream market intermediaries.

Furthermore, there is a growing body of literature that explores the selection process downstream customers' use in choosing their preferred supplier. In order to transact with alternative market intermediaries, different costs and different activities are involved. Relationships between growers and market intermediaries will improve when growers understand and appreciate what activities market intermediaries perform.

Quality is an extremely important factor that influences the competitiveness of the Western Australian apple industry. Product quality influences the consumer's choice relative to other competing products (such as other fruits, snack products and confectionary) (HAL 2001). Furthermore, the characteristics of fresh produce may increase the risks and costs of transacting due to the fact that: (1) fresh produce is perishable and sensitive to post harvest handling; (2) damage to fresh produce often takes some time to become apparent, making it difficult to identify the responsible parties; (3) it is difficult to measure the quality sought in the fresh market; and (4) quality specifications often differ between customers. By identifying what customers need, growers can reduce the amount of conflict in their transactions and elevate their status to preferred suppliers. In this study, by looking at transaction cost analysis, gap analysis and the nature of their long-term relationships with downstream market intermediaries, growers are in a better position to make informed decision.

In recent years, the Australian apple industry has been characterised by lower grower returns, due to the competition from low-cost imported concentrated apple juice and greater exposure to global market developments. In addition, apple production in Australia has declined markedly relative to other Southern Hemisphere competitors. In Western Australia, the export of apples remains small in proportion to the total

industry returns. With a strong domestic focus, minimal exports and minimal imports, the industry faces the risk of becoming increasingly less competitive. Through this study, the disclosure of marketing costs and price margins is expected to reveal to growers where they might best focus their attention to improve their competitive position.

1.5 Outline of the thesis

The organisation of this thesis is as follows:

Chapter Two provides an overview of the WA apple industry. The WA industry is positioned first in the context of the world apple production and then the Australian apple industry.

Chapter Three provides a literature review which deals firstly with the marketing of fresh produce, and the subsequent evolution of long-term purchasing arrangements.

Chapter Four discusses the needs for a pluralistic approach which incorporates transaction cost analysis, gap analysis and relationship marketing analysis.

Chapter Five describes the research methodology employed in this study. The research design, data collection procedures, the questionnaire design, the measures used, data preparation procedures, and the proposed statistical analysis are discussed.

Chapter Six presents a description of the respondents participating in this study.

Chapter Seven reports on the empirical results of the transaction cost analysis and the activity margins faced by WA apple growers in transacting with the various market intermediaries.

Chapter Eight reports on the empirical results of the gap analysis. The capacity of WA apple growers to meet the needs of their downstream market intermediaries will be explored. Similarly, the capacity of market intermediaries to meet the grower's needs will be reported and analysed.

Chapter Nine presents the results of the analysis of the long-term buyer-seller relationships that exist between WA apple growers and their downstream market intermediaries.

Chapter Ten discusses the principal findings. This chapter identifies limitations to the study, future research directions and addresses the contributions made by this study to the literature and the WA apple industry.

CHAPTER 2

AN OVERVIEW OF THE APPLE INDUSTRY IN AUSTRALIA

2.1 Chapter outline

Chapter Two provides an overview of apple production and marketing in Australia. The chapter starts with a brief botanical overview of apples. The next section will outline apple production and marketing, starting with a global overview, followed by Australia in general and Western Australia specifically. The chapter will conclude with a summary and implications for the study.

2.2 Introduction

Apples belong to the *Rosaceae* family and are part of the *Pomoideae* subfamily with pears, loquats, quinces and medlars (Cramond 2004). The fruit of this subfamily are referred to as pome fruit, which are described as fleshy fruit consisting of a central core with encapsulated seeds, surrounded by a thick fleshy outer layer.

Apple is a small deciduous tree reaching 5 to 12 metres tall with a broad often dense twiggy crown. Apple was probably the earliest fruit tree to be cultivated. The wild ancestor of *Malus domestica,* the modern apple, is *Malus sieversii*. This tree is still found wild in the mountains of Central Asia in southern Kazakhstan, Tajikistan and Xinjiang (Dzhangaliev 2003).

Apples have remained an important fruit crop in most temperate climates. The apple is naturally adapted to temperate zones 30 degrees north or south of the Equator. It grows in areas with cold winters and being

deciduous, it can survive quite low winter temperatures. Generally, apples do not flower in tropical climates because they have a chilling requirement. However, the trees do need some protection from the wind and should not be planted in low areas that are prone to late spring frosts.

There are more than 7,500 known cultivars of apples (Dzhangaliev 2003). Although most cultivars are bred for fresh consumption, some are cultivated specifically for cooking or producing cider. For cider apples, the flesh is too tart and astringent to eat fresh, however they give the beverage a richer flavour that dessert apples cannot. For dessert apples, the flesh is soft but crisp. Other desired qualities in modern dessert apples are a colourful skin, absence of russeting, a long shelf life, high yields, disease resistance, a typical 'Red Delicious' apple shape, a long stem (to allow pesticides to penetrate the top of the fruit) and flavoursome (Forsline *et al.* 2003). Unlike most other deciduous fruit, apples can be stored for many months and still retain much of their nutritional value.

Apples are relatively indifferent to soil conditions and they can tolerate a wide range of pH values and fertility values (Forsline *et al.* 2003). Soils however should be well drained. To develop fruit, apples must be cross pollinated as they are self-incompatible. For apples, inadequate pollination can cause excessive fruit drop (when marble sized), small and misshapen fruit, delayed ripening and a low seed count (Polomski and Reighard 2004). Well pollinated apples generally produce 7 to 10 seeds and are the best quality.

Apart from that, inadequate pollination can also be due to poor weather during the flowering season. For apples, the most common problem is a late frost that destroys the delicate outer structure of the flower. Apples are also prone to biennial bearing (Forsline *et al.* 2003). If the fruit is not

thinned, it may produce very little flower the following year. Good thinning can even out the cycle, so that a reasonable crop will be produced every year.

Cultivars vary in their yield and the ultimate size of the tree, even when grown on the same rootstock. Some apple cultivars, if left unpruned, will grow into very large trees, which have the potential to produce a great deal of fruit. The fruit however will be small and difficult to harvest. Mature trees normally produce 40 - 200 kg of fruit one time per year (Polomski and Reighard 2004).

2.3 World apple industry

Apples are one of the most widely cultivated fruit and are produced in most countries that have a cool temperate climate. Apples, together with oranges and bananas, comprise the major products in the global fresh fruit trade (Roche *et al.* 1999).

Between 1989-91 and 2001-03, the production of all major fruit rose by 43 percent, more than twice the rate of growth in the world population (at about 18 percent). Apples and banana grew slightly faster than the average for all major fruit, with the market share increasing from 12 percent in 1989-91 to 14 percent in 1999 (World Apple Review 2000). However, fresh fruit faces increasing competition from snack foods such as biscuits, confectionary, chocolates, cakes and pastries and the minor fruits.

Apples are produced commercially in over one hundred countries around the world. The top five producing countries harvest nearly 55 percent of the world production and the top 15 countries, close to 80 percent (World Apple Review 2004) (Table 2.1).

Table 2.1 World apple production by country and by volume ('000 tonnes)

Country	Rank	1990	1995	2000	2001	2002	2003P
China	1	4,332	14,107	20,473	20,023	19,251	20,610
United States	2	4,380	4,801	4,682	4,277	3,881	4,242
France	3	3,326	2,516	2,157	2,397	2,478	2,402
Turkey	4	1,900	2,100	2,400	2,450	2,200	2,200
Italy	5	2,050	1,940	2,232	2,341	2,199	2,053
Germany	6	2,222	1,415	3,137	1,929	1,600	1,600
Iran	7	1,524	1,824	2,142	2,353	2,355	2,358
Poland	8	812	1,288	1,450	2,434	2,169	2,200
Russian Fed.	9	NA	1,200	1,832	1,682	1,800	1,900
India	10	1,094	1,200	1,040	1,230	1,420	1,420
Chile	**11**	**700**	**850**	**805**	**1,135**	**1,050**	**1,100**
Argentina	**12**	**975**	**1,146**	**833**	**1,429**	**1,000**	**1,000**
Japan	13	1,053	963	800	931	926	892
Brazil	**14**	**543**	**664**	**1,153**	**716**	**858**	**842**
Spain	15	657	816	838	962	653	746
Australia	**16**	**316**	**317**	**320**	**325**	**321**	**326**

Source: World Apple Review (2004)
Notes:
P: Estimate for 2003 is preliminary, apart from Australia, which is in actual estimate.

In 1999, world apple production exceeded 60 million tonnes for the first time (World Apple Review 2000). World apple production for 2001-03 was more than 40 percent above the level a decade before (World Apple Review 2004).

Currently, global apple production is dominated by China, which produces 5 times more fruit than the USA, its closest competitor. China's market share has reached 36 percent, three times its market share in 1992-94 (World Apple Review 2004).

World apple production trends closely follow trends in the area planted. However, new areas coming into production tend to be more susceptible to climatic factors.

In 2003, only three Southern Hemisphere apple producers were ranked among the top fifteen including Chile (11), Argentina (12) and Brazil (14). Nevertheless, Southern Hemisphere producers have a significant impact on the world market producing almost 8 percent of world production (Table 2.2).

Table 2.2 Southern Hemisphere apple productions, 1979-81 – 2003-04[1]
('000 tonnes)

Country	Rank	1979-81[1]	1989-91[1]	1995-97[1]	2001-03[1]	2003-04[2]
Chile	1	251	705	883	1,095	1,140
Brazil	2	87	516	727	805	970
Argentina	3	946	1,015	1,161	1,143	900
South Africa	4	395	525	556	572	700
New Zealand	5	211	351	548	521	506
Australia	6	317	317	317	314	280
Total	**-**	**2,207**	**3,429**	**4,192**	**4,450**	**4,496**
% of World	**-**	**6.4**	**8.6**	**7.6**	**7.7**	**7.8**

Source: World Apple Review, (2004)
Note:
1. Estimates for 1979-81, 1989-91, 1995-97 and 2001-03 are average production.
2. Estimate for 2003-04 is preliminary, apart from Australia, which is in actual estimate.

On a global scale, Australia is not a significant apple-producing nation, accounting for only 0.5 percent of world apple production. However, Australia is one of the top six Southern Hemisphere producers that have found counter-seasonal supply to be an advantage in marketing fresh fruit to the Northern Hemisphere.

Irrespective, Australia and the other major Southern Hemisphere producers all face similar problems of oversupply due to; (1) the expansion of plantings during the last 10 years; (2) declining per capita consumption; and (3) the inability to meet consumer's requirements for new flavours and taste sensations (World Apple Review 2004). According

to the World Apple Review (2004), the top ten fresh apple exporters in 2002 remained the same as in the previous year. However, their combined share of both volume and value increased by 2 percent (Table 2.3).

Table 2.3: Top ten fresh apple exporters, 2002

Rank	Country	Volume (metric tons)	Value (USD) ($'000)
1	France	766,992	542,539
2	Italy	687,771	368,786
3	United States	596,126	379,786
4	Chile	548,194	279,345
5	China	438,857	149,492
6	Belgium	394,806	221,663
7	Poland	327,823	49,518
8	New Zealand	318,860	196,442
9	Netherlands	258,475	171,205
10	South Africa	256,467	83,597
	Top Ten	**4,594,371**	**2,442,353**
	Total World	5,618,968	2,883,674
	(Top Ten %)	**81.8**	**84.7**

Source: World Apple Review (2004)

Despite the fact that no Southern Hemisphere nations rank in the top ten nations in terms of production, three countries including Chile, New Zealand and South Africa rank in the top ten in terms of exports. In 2002/03, Australia exported 15,150 tonnes of fruit worth an estimated $8.9 million (DOA 2004).

In 2002, the top ten apple importers accounted for 56 percent of the volume and 62 percent of the value (Table 2.4). Despite massive levels of domestic production, China was ranked sixth in terms of imports. However, Taiwan absorbed most of the imports that were sent to this destination (World Apple Review 2004).

Table 2.4: Top ten fresh apple importers, 2002

Rank	Country	Volume (metric tons)	Value ($'000)
1	Germany	777,014	433,238
2	United Kingdom	448,569	377,794
3	Russian Federation	362,071	113,812
4	Netherlands	279,799	204,190
5	Belgium	246,644	178,986
6	Spain	207,770	120,905
7	China	173,676	92,445
8	Mexico	171,719	145,826
9	United States	170,354	108,434
10	Canada	138,945	106,273
	Top Ten	**2,976,561**	**1,881,903**
	Total World	5,295,209	3,035,780
	(Top Ten %)	**56.2**	**62.0**

Source: World Apple Review (2004)

For the import and export transactions, The World Apple Review (2000) notes that the expansion of preferential and bilateral trade agreements will constrain the economies of trade in the near future. Future market expansion is likely to be dependent on opportunism as much as efficiency.

However, according to the World Apple Review (2004), economic forces are encouraging apple production in the transitional economies and discouraging it in the more developed countries. Among these factors are the cost and availability of land, water and labour, the pressure of urbanisation and industrialisation, and the differential impact of government regulations on developed countries (World Apple Review 2004).

Although China is the major producer of apples in the world, in terms of competitive rankings among the major world apple suppliers, China is not included (Table 2.5).

Table 2.5: Competitiveness rankings of major world apple suppliers, 2004

Country	Overall	Production Efficiency[1]	Infrastructure & Inputs[2]	Financial & Markets[3]
Chile	1	6	1	3
New Zealand	2	2	3	4
France	3	7	5	1
Netherlands	4	1	15	9
Austria	5	3	10	8
Belgium	6	4	14	2
Italy	7	12	7	5
United States	8	14	2	11
Japan	9	9	12	7
Australia	**10**	**8**	**16**	**12**
Canada	11	15	6	10
Germany	12	11	11	13
South Africa	13	5	8	18
U.K.	14	25	17	6
Argentina	15	17	4	21

Source: World Apple Review (2004)

Notes:

1. Production efficiency measures include percent change in total production, relative variability of production, acreage non-bearing, new varieties, planting density and average yield per hectare.
2. Infrastructure and input measures include storage adequacy, packing facilities, transport and distribution efficiency, marketing effectiveness, availability and cost of suitable land, water availability, labour supply and cost of inputs.
3. Financial and market measures include interest rates, inflation, capital availability, security of property rights, product quality control, percent of production exported and average export price.

Regrettably, Australia fell well below the world's best practice and in comparison to both Chile and New Zealand, is significantly disadvantaged in the international market. Nevertheless, it is believed that Australia will be able to compete with other Southern hemisphere countries in the near future. The global production of apples is likely to increase in the immediate future, with Chinese production being the key driver. Oversupply on world markets will begin to diminish after Chinese production has peaked and supply and demand are better matched.

2.4 Australian apple industry

Horticulture in Australia is a significant industry contributing around $6.4 billion to the Australian economy. Exports are worth around $700 to $800 million annually (Colbeck 2005). For 2002/03, the total value of the export market for Australian apples was $41 million; an increase from $32 million in 2001/02. However, the Australian apple industry has been characterised by lower grower returns, increased competition from low-cost imported apple juice and greater exposure to global market competition.

As a proportion of the total gross value of Australian agricultural production, the apple industry accounts for just one percent (Agriculture Forestry Fisheries Australia 2001). Despite the small size of the industry, the localised nature of production ensures that the apple industry is of unique importance to many regional areas in Australia. Furthermore, the increasing importance of trade and trade policy within the global apple industry places renewed emphasis on competitiveness within the global context.

In the world apple market, the World Apple Review (2004) ranked Australia tenth overall in terms of international competitiveness, with sub-component rankings of twelfth for production efficiency, eighth for infrastructure and inputs and ninth for financial and market factors. An analysis of cost competitiveness indicates that Australia has lower per hectare costs of production than key competitors in South Africa and New Zealand, but higher relative costs of production on a per tonne basis once yield differentials are taken into account.

There are many reasons why the Australian apple industry has missed out on the expansion in global trade. They include limited growing areas,

access and opportunity to more popular and profitable varieties and the historically insular nature of the domestic market (HAL 2001). Indeed, it can be argued that Australia's protected domestic market has led to lags in the Australian industry adopting new varieties and intensifying orchards that may have indirectly led to fruit being produced which is of inferior quality compared to that produced by competitors.

Furthermore, Australia's declining share of world production, relative to other Southern Hemisphere competitors, exemplifies the challenges facing the domestic apple industry (HAL 2001). Without a commitment to global competitiveness and the development of an enhanced export focus, the industry will become increasingly less competitive in the world market. Opportunities for the industry to grow will be forgone if the Australian industry continues to choose a domestic focus.

2.4.1 Australia apple production

In 2002, the production of apples in Australia was 290,263 tonnes with a gross value of $348 million. In 2001/02, there were approximately 1,333 growers and 25,000 hectares dedicated to apple production in Australia (Table 2.6).

Table 2.6: Australian apple production details

Production Details	2000/01	2001/02	% Variance
Farm gate value ($ million)	230.6	289.5	25.5
Gross value ($ million)	282.0	348.0	23
Total number of productive trees aged 6 years and over (million)	6.5	7.1	9.2
Total planted area (hectares)	23,800	25,000	7.5
Total number of growers	1,262	1,333	5.6

Source:ABS

In general, the industry consists of small growers, although there are several large growers and cooperatives with access to more than 200 hectares (Douglas 1995).

Between 2000/01 and 2001/02, the number of productive apple trees expanded slightly from 6.5 million to 7.1 million trees. All states in Australia produce apples. The most important growing regions in each state include Stanthorpe in Queensland; Orange and Batlow in NSW; the Goulburn Valley and Southern Victoria in Victoria; the Huon Valley in Tasmania; the Adelaide Hills in South Australia; and the Perth Hills and the Donnybrook/Manjimup region in Western Australia. Overall, Victoria (31%) and New South Wales (21%) are responsible for the bulk of domestic production (Table 2.7).

Table 2.7: Fresh Australian apple production by state, 1992-2003 (tonnes)

Season	VIC	NSW[1]	TAS	WA	SA	QLD	TOTAL
1992	105,700	75,500	50,400	37,400	21,600	25,500	316,100
1993	97,200	81,000	54,000	50,400	32,400	28,800	343,800
1994	94,657	63,336	54,954	44,579	23,089	26,305	306,920
1995	98,971	79,267	57,050	29,898	23,596	27,873	316,655
1996	78,988	62,335	52,398	38,200	20,314	28,361	280,596
1997	118,968	83,324	55,649	38,218	28,865	28,045	353,069
1998	94,311	77,580	46,692	34,173	24,849	31,249	308,856
1999	107,291	68,175	62,271	42,219	25,161	29,232	334,353
2000	98,150	66,992	57,537	40,665	23,431	32,831	319,652
2001	109,489	58,810	56,105	45,105	25,965	29,123	324,597
2002	77,271	47,747	67,955	39,937	34,556	22,797	320,500
2003	117,700	62,300	52,500	38,900	24,600	30,100	326,100

Source: ABS
Notes: 1. NSW includes ACT

Even with such a widespread distribution of apple production, it is apparent that production alternates between seasons. Biennial bearing is a characteristic of apple production worldwide. Apple production in

Australia has undergone a decade of change in order to meet the changing tastes of consumers domestically and internationally.

In an effort to capture premium prices at the retail level, a major shift in production has occurred towards the newer, higher returning varieties (Gala, Fuji, Braeburn, Pink Lady, Sundowner) at the expense of traditional varieties such as Red Delicious. The major varieties on the domestic market now include Gala, Jonathon, Bonza, Red Delicious, Golden Delicious, High Early, Granny Smith, Fuji, Pink Lady, Braeburn, Lady William and Sundowner (Table 2.8) (HAL 2001).

Table 2.8: Australian apple production by variety (2001)

Variety	Production (kg)	Yield (kg/tree)	Share of Total Production (%)
Red Delicious	88,257,517	44.1	27.6%
Granny Smith	73,514,809	82.2	23.0%
Pink Lady	32,774,548	53.8	10.3%
Golden Delicious	24,251,433	63.1	7.6%
Gala	23,917,817	41.7	7.5%
Fuji	19,135,748	34.1	6.0%
Jonathon	9,988,102	55.2	3.1%
Ordinary Delicious	8,032,978	57.0	2.5%
Lady William	7,582,557	54.2	2.4%
Bonza	5,692,995	59.6	1.8%
Sundowner	5,630,747	51.0	1.8%
Apples (NEC)	4,584,234	54.3	1.4%
Jonagold	4,365,504	52.8	1.4%
Braeburn	3,805,266	41.3	1.2%
Democrat	3,120,822	76.6	1.0%
Sturmer	1,418,034	50.8	0.4%
Summerdel	1,026,647	45.7	0.3%
Mutsu	731,862	52.1	0.2%
Crofton	563,732	32.1	0.2%
Akane	482,417	23.5	0.2%
Abas	337,777	29.3	0.1%
Goldina	285,415	53.1	0.1%
Gravenstein	150,780	26.0	0.0%
Total	**319,651,741**	**52.3**	**100%**

Source: ABS (2001)

Within Australia, apples are grown for three markets: the domestic fresh fruit market; the fresh fruit export market; and processing (juice and peelers) (Table 2.9) (ABS 2004b).

Table 2.9: Utilisation of apples by state, 2003

States	Tonnes			
	Fresh	Processed	Export	Total
VIC	84,873	29,000	3,827	117,700
NSW[1]	42,738	18,300	1,162	62,200
TAS	26,137	9,000	17,363	52,500
WA	27,496	5,800	5,604	38,900
QLD	18,294	5,200	1,106	24,600
SA	25,111	3,200	1,789	30,100

Source:ABS
Notes: NSW includes ACT

Tasmania is the main apple exporter with more that 33 percent of the total production exported, followed by WA with 14 percent. For Victoria, most of the apples produced (72%) were sold in the domestic apple market.

2.4.2 Apple consumption in Australia

Although there is limited information available, the apparent consumption of apples in Australia fell from 16.0 kg per capita in 2000/01 to 13.3 kg in 2001/02 (ABS 2004b). According to HAL (2002), this situation is attributed to competition from other fruits, snack foods and the increased availability of competitively priced substitutes.

Apples are notoriously difficult for consumers to select. Quality varies considerably at the retail level and consumers are often unaware of when various varieties are at their best. HAL (2001) found that the price relationship between apples and bananas also had a strong bearing on consumer choice.

Recently in Australia, with more two-income families, convenience and quality appear to be more important than price in determining what products consumers will buy. Furthermore, the demographic trends towards smaller families, more singles and more seniors in the community mean smaller quantities of products are being purchased (RIRDC 2001). Each of these factors also contributes to the decreasing demand for apples in Australia.

Over the last decade, competition between fruits has grown within the fresh produce sector. During this period, most retail chains increased the number of product lines carried for both fruit and vegetables by approximately 30 percent (World Apple Review 2004). This provided the consumer with a wider range of product choice, effectively increasing competition for the consumer's dollar. Given the high degree of substitutability between fruit (relative to vegetables), the importance of ensuring product quality is paramount. However, the quality of apples at the retail level is often perceived to be less than it should be (HAL 2004).

Consumers of fresh fruit are becoming more discerning, demanding safe, healthy, better quality products with greater product differentiation and reliability of supply (World Apple Review 2004). Consumers are eating on the run and therefore purchasing and consuming more food away from the home, where fresh apples are less acceptable. Furthermore, the supermarket chains are using their buying power to put greater demands on their suppliers.

Competitive prices, electronic data exchange, contractual supply alliances, third party assurances, as well as rigorous internal processes (allowable chemicals, chemical residues, sustainability and conservation) are just a few of the increasing demands being placed on growers by supermarkets

(World Apple Review 2000). Most retailers do not reimburse the growers for these additional costs.

2.4.3 Australian apple export

Historically, Australia has been a major exporter of apples to South East Asia. More recently however, greater opportunities are emerging in South Asia (India and Sri Lanka) and the United Kingdom. Exports have increased by 7 percent from 1999-00 to 2000-01, with the total volume of exports increasing from 33,709 tonnes to 38,510 tonnes.

India currently provides the major export market for Australian apples, accounting for 23 percent of the volume and 18 percent of the total value, followed by Malaysia and Sri Lanka. Although the United Kingdom was ranked fourth in terms of volume, the United Kingdom provided the best return (Table 2.10) (ABS 2004b).

As an exporter, one of Australia's strengths is the ability to offer counter-seasonal fruit to Northern Hemisphere countries. However, it has been difficult to secure commitment from producers to supply export markets on an on-going basis. Shortfalls in domestic production result in higher prices, with greater quantities of fresh fruit being transferred from export markets to the domestic market; for example, the transfer of Red Delicious from Singapore and Malaysia in 1998 and the transfer of Red Delicious from India in 2001.

Table 2.10: Australia major export market for 2002/03

Country of destination	Volume (kg)	Value ($'000)
India	7,323	$7,635
Malaysia	6,566	$6,984
Sri Lanka	4,182	$4,015
United Kingdom	3,749	$8,494
Taiwan	2,929	$4,589
Other	2,365	$3,411
Singapore	2,240	$2,725
Bangladesh	1,500	$1,361
Hong Kong	830	$880
Indonesia	687	$944
Japan	109	$336
TOTAL	**32,480**	**$41,374**

Source: ABS

Following the transfer of export fruit to the domestic market in 1998, Australia lost market share in Singapore and Malaysia to China. Although the emergence of the Indian (and other Sub-Continent) export markets provided a replacement outlet for Australian Red Delicious in subsequent years, there is a risk that Australia's newly won export markets in the Sub-Continent may also be jeopardised by the current transfer of fruit away from export (HAL 2001).

2.4.4 Australian apple supply chain

Apple production in Australia is driven primarily by small family farms, with only a few corporate entities involved in production. Although packing is usually undertaken by family-owned packing houses, grower-owned cooperatives are becoming more common place. Growers normally form a cooperative enterprise for the benefits that they can achieve through them. As reported by the USDA (1990), cooperative enterprises help the growers to stay in business and to control production. However, most cooperatives fail for a variety of reasons, including the lack of trust between members (Hughes and Cadilhon 2007). In Western Australia, at the time the study was undertaken, there was only one grower cooperative. They were facing a lot of internal problems and were

in serious financial trouble. Some larger family-owned operations are vertically integrated to the extent that they control production, wholesaling and distribution to the retail sector. Others have integrated backwards into nursery production to diversify their interests across the value chain (HAL 2001).

Increasing retail concentration through supermarkets and large fruit barns is an important issue for the fruit industry within Australia. Traditionally, the retail sector was characterised by multiple buyers, with small fruit and vegetable shops visiting wholesale markets every few days to secure product. These buyers took care in selecting good quality product and maintained a direct interface with their customers. In comparison, large retail buyers are at least once removed from the customer. If consumers are not satisfied with the quality of the apples on display, they will often spend more money in-store on a competing product (either another fruit or a snack product) (HAL 2001).

The concentration of retail outlets and the dominance of the two major supermarket chains is a major issue for apple growers. Growers claim that they are effectively price takers and that fruit quality has diminished at the wholesale and retail level as a consequence of the failure to maintain the cool chain (HAL 2001). A common complaint from growers is that the current retail structure results in fruit being "sleepy and floury" by the time it reaches retail shelves.

Furthermore, the domestic price for juice grade fruit has been driven downwards by the increasing importation of concentrated apple juice. If juice grade fruit is shifted onto the domestic market, both the quality of the fruit and the price of the fruit will decline. Australian apple growers face lower prices under this scenario even though export markets are

isolated from this impact (HAL 2001). Poor quality, in turn, will lead to reduced consumer demand. Education and awareness programs to address handling and storage issues have resulted in some improvements however, further education and training, combined with retail/wholesale investment in additional cold storage capacity is required if apples are to reach consumers in a consistently good condition.

The supply chains for apples in Australia are unique in terms of their very strong domestic focus, minimal exports and minimal imports (Outlook 2007). Thus, for Australia, while globalisation is improving access to new and existing export markets, it is also opening the domestic market to the threat of import competition. In the future, apple producers in Australia will be more exposed to global competition.

2.5 Western Australian apple industry

Natural advantages such as climate and a clean environment, good water and soils make Western Australia an ideal place to grow a variety of high quality products for domestic and international markets. Western Australia produces a range of horticultural commodities including fruit, vegetables, flowers, nursery products and wine. In 2002/03, the gross value of WA's horticultural production was estimated at $567 million, with exports valued at $263 million including exports to the Eastern States which were valued at $70 million (DAWA 2003).

In WA, apples are available all year round due to the use of controlled atmosphere storage. Although fruit is imported into WA from other states of Australia and from overseas, there are several import restrictions. Apples, pears, stone fruit and table grapes cannot be imported into WA, due to quarantine concerns and the potential introduction of exotic plant

disease (Douglas 1995). This situation makes the apple industry in WA quite unique.

Furthermore, Western Australia is home to a fruit breeding program, which is recognised nationally and internationally as being an innovative world leader (Portman and Pasqual 1999). The program is managed by AGWEST and is based at Manjimup, 300 kilometres south of Perth. It has been internationally recognised as a centre of excellence in deciduous fruit crop breeding. The principle fields of expertise are in pome fruit and plums, with about 80 per cent of the resources centred on the national apple breeding program.

2.5.1 Western Australia apple production

Apples are the most important fruit crop produced in WA (ABS 2002). Apples are primarily grown in the southwest of WA in a broad arc from Perth to Albany. The main apple growing regions are Donnybrook, Dwellingup, Manjimup and the Perth Hills area (Figure 2.1).

Figure 2.1: Apple growing regions of Western Australia

The Perth Hills and Dwellingup are located near to Perth City, while Donnybrook and Manjimup are located 300 kilometres south of Perth. These areas have a cool temperate Mediterranean climate which makes it suitable as an apple growing region. Fruit is harvested from February to May and consigned to either the domestic market for consumption or processing (as juice), or to the export market. While exports are significant: WA accounts for around 10 percent of Australia's total apple production yet more than 26 percent of the production is exported, phytosanitary regulations prohibit the import of fresh apples into WA (Douglas 1995). This means that the only apples available in the domestic market are locally produced.

In 2003, apple production in WA exceeded 38,890 tonnes, down from 39,937 tonnes in 2002. From the total production in 2003, 15 percent was sent to processing (APAL 2004). Of the major apple growing regions in WA, Manjimup is the largest, producing 38 percent of the state's production in 2003. The Perth Hills, Donnybrook and Dwellingup are also significant apple growing areas (Table 2.11) (APAL 2004).

Table 2.11: Apple production by region in Western Australia, 2003 (Kg)

Statistical Area	**2003 *Total Production**	**2003 Processing**
Manjimup	14,895,614	1,394,946
Donnybrook	13,376,060	2,444,764
Perth Hills	3,554,294	479,810
Dwellingup	290,975	79,983
Total	**38,869,014**	**5,799,442**

Source: APAL (2004)
Notes: * Total production including processing

With consumers demanding greater choice and a greater variety of apples, increased plantings of Pink Lady, Sundower, Royal Gala and Fuji are providing consumers with a wide range of high quality bi-coloured apples

(Portman and Pasqual 1999). The main varieties of apples grown in WA were Cripps Pink (33% of total tree numbers) – from which fruit may be sold using the trade name PINK LADY, Granny Smith (16%), Gala (16%) and Cripps Red (11%) – from which fruit may be sold using the trade name SUNDOWNER.

2.5.2 Western Australian apple consumption

While the ABS statistics do not differentiate between consumption at the national and the state level, it is apparent that per capita consumption of apples has fallen from 16.0 kg in 2000/01 to 13.3 kg per person in 2001/02 (HAL 2004). As a result, wholesale prices in the domestic market are generally declining. Batt (2004) indicates that 30 percent of consumers would eat more apples if the price was less expensive. Besides price, 24 percent of consumers indicated that better quality and fresher fruit (14%) would encourage them to eat more. According to Batt (2004), the most preferred varieties chosen by consumers were Granny Smith, Pink Lady and Gala/Royal Gala.

Although the price of apples in the domestic market is declining, consumption will continue to decrease as consumers are able to choose from a greater range of alternative fruits and snacks. As indicated by Batt (2007), personal disposable income has a considerable impact on where consumers purchase their fresh fruit and where they consume it. With increasing income, there is a corresponding increase in the desire for more convenience, a greater variety of food and high quality food, which indirectly will affect consumption patterns for fresh fruit.

2.5.3 Western Australian export market

Price competition from China is suppressing market opportunities for WA apples in the major export markets. Western Australia accounts for 10

percent of the national apple production but more than 20 percent of exports.

Western Australia is the second largest apple exporter in Australia after Tasmania. In 2003, around 26 percent of the state's production was exported, mainly to South-East Asia including Malaysia and Singapore. With greater competition from China, the volume of exports has fallen from 5,604 tonnes in 2003 to 2,606 tonnes in 2004, placing greater quantities of apples onto the domestic market. Not unexpectedly, this has placed increasing pressure on prices in the domestic market.

However, with most supermarket chains procuring the majority of the apples they require directly from growers, the prices of apples in the Perth Metropolitan Markets have increased (PMC online). This may help to compensate the growers for the decreasing demand in the export market.

2.5.4 Western Australia apple supply chain

In WA, the traditional ways of conducting business in the fresh produce industry are rapidly changing. Historically, retailers purchased the fresh fruit they required from the central wholesale market. The Perth Metropolitan Market was established in 1926 under the Metropolitan Markets Act No. 55; the Perth Metropolitan Market Trust was appointed as the corporate body to manage the Perth Metropolitan Market (Caddy 1978). More recently, however, the larger retail chains have sought to procure greater quantities of their produce directly from producers. According to Batt (2003a), due to the absence of an auction as the principal mechanism for price setting in the Perth fresh fruit market, there is an element of distrust present between the growers and the market agents who receive and distribute the produce.

With supermarkets now accounting for approximately 70 percent of retail sales, competition between the major retail chains is increasing. Over the past 10 years, supermarkets have gained an increasing share of the fresh fruit and vegetable retail market. As the fresh produce section is the major driving force in sales across the whole shop floor, retailers are being forced not only to reduce costs, but to give greater consideration to quality (Batt 2003a). In the current situation, growers are competing with each other and with the market agents to supply the supermarkets in order to capture volume sales.

2.6 Chapter summary and implications

In Australia, many varieties of apple have been planted including Granny Smith, Cripps Pink, Cripps Red, Fuji and others. The seasonality of harvest varies between varieties and the region in which the fruit is cultivated. In WA, apples are harvested from January to May each year (APAL 2004). Since fresh apples cannot be imported into WA, the use of suitable cold storage techniques makes it possible to deliver fresh fruit to the market all year.

With the use of controlled atmosphere and modified atmosphere storage, which slows the natural ripening process, it is possible to keep apples for several months while maintaining their external appearance. However, consumers often observe that the quality of the apples they purchase changes unfavourably over time (Batt 2004). Undesirable changes in the eating quality of the apples bought by consumers makes them shift to other fruit or snacks if the apples purchased taste bad or fail to meet their expectations. The other significant factor that directly affects WA apple growers is competition from China, both in the fresh fruit market and the market for concentrated apple juice (CAJ). Imports of CAJ have increased

from less than 6 million litres in 1993 to more than of 15 million litres in 2000. The use of local apples in the processing industry has declined, with processors more likely to source their CAJ from China at significantly lower prices. Furthermore, fresh apples from China, while they cannot be imported into Australia, directly impact on the WA apple industry through suppressing prices in the export market.

According to McGregor (2001), participants in the WA fresh fruit and vegetable industry need to develop strong partnerships and to move away from the traditional adversarial approach that has pervaded the local fresh produce industry. Failure to develop strong value chain partnerships will result in higher costs for the industry, increased uncertainty and lower market share. Thus, growers need to consider other value-added activities that can increase the value of their offer quality to buyers. By undertaking value-added activities, there will be a shift in the grower's capacity and ability to transact with their buyers. In the past, this means that more growers will embark on direct transactions with preferred buyers.

CHAPTER 3

FRESH FRUIT MARKETS: EVOLVING CONCEPTS AND PRINCIPLES

3.1 Chapter outline

This chapter will describe how changes in the agricultural supply chain affect both the efficiency and the effectiveness of conducting business. This will be discussed in relation to the importance of industrial purchasing theory and the development of long-term buyer-seller relationships. This is followed by a discussion on the customer selection criteria. Drawing on the literature, this chapter will describe how each of these variables impact on the Western Australian apple industry.

3.2 Introduction

Shepherd and Futrell (1969, 8) define the most basic task of agricultural marketing as being '…to determine accurately in quantitative and qualitative terms just what consumer demands are in time, place and form and just what changes are taking place in those demands with the passage of time'.

In agriculture, the value of a commodity in the open market depends on its availability (and timing), the market demand (quantity and quality) and the costs of production (Hobbs 1995). For producers, success ultimately depends on the way in which many different steps such as: planting the right varieties, harvesting at optimum ripeness, packing, transporting, merchandising and marketing take place. This can only be

achieved with careful and detailed communication and coordination between growers and market intermediaries (Perosio *et al.* 2001).

Under the traditional system for marketing agricultural produce, growers have traditionally consigned fruit to those market agents who promise to provide the best returns (Batt 2003b). However, in the fresh produce market, since prices are determined primarily by supply and demand (Folley 1973), it is hard to determine the exact price that growers will receive. Furthermore, according to Batt (2003b), receiving good prices is no guarantee of getting paid. In Western Australia (WA) most market agents pay the grower 14 - 21 days after the produce has been received. As a result of rationalisation in the supply chain and financial mismanagement, several market agents have collapsed leaving growers as the major creditors.

The key issue here is transparency and trust in the exchange. From the growers point of view, where prices cannot be determined in advance, by necessity, there is considerable risk associated with the exchange. According to Gan *et al.* (2004), buyers and sellers should share the risk appropriately, but this seldom happens in practice. In order to minimise risk, the majority of producers choose to transact with more than one market agent. Batt (2003b) indicated that growers normally transact with more than one agent due to the lack of trust and information about market prices, or the condition of their fruit in comparison to alternative suppliers. Hence, growers use multiple agents to ensure that they are being treated fairly and equitably.

With the emergence of modern retail formats and the increasing need for consistent product quality, reliable delivery and food safety, more retailers are choosing to transact directly with growers as a means of reducing

costs and improving product quality (Batt 2006). Although more growers prefer to transact directly with retailers, the wholesale market remains important as a means for growers to establish their selling price. In the wholesale market, prices are influenced by the seasonality of supply and the level of consumer spending (Spencer 2004). However, the major weakness in the wholesale market is that the price setting mechanism does not always reward the highest quality, but rather it clears the market floor. Supply is still therefore the major determinant of price in the fresh produce industry.

3.3 Theoretical foundation

Quality, price and the ability to deliver are generally regarded as the most important criteria by which organisational buyers evaluate potential suppliers (Cunningham and White 1973; Lehmann and O'Shaughnessy 1974; Dempsey 1978; Wilson 1994). Quality is most often perceived to be the most important variable, followed by the ability to deliver and a competitive price (Weber *et al.* 1991). Quality also plays a critical role in acquiring and sustaining competitive advantage (Rapert *et al.* 1998). However, the notion of product quality is an ambiguous one that is extensively discussed in the literature (Oakland 1999). Quality can be assessed in various ways according to some objective standard. However, product quality can also be evaluated according to some subjective standard. This implies that buyers and users perceptions of product quality can be different. Quality expectations are influenced by the context in which the buyers and users are embedded. As the "objective" product quality may change during the distribution process, quality assessment becomes even more complicated.

In terms of fresh fruit marketing, technical quality and functional quality are both important to customers. Technical quality is related to what the customer gets from the production process. This determines the level of customer satisfaction with the quality offered for sale (Gronroos 1995). Functional quality is related to the interaction process that determines the ongoing relationship with customers. This basically means suppliers must be able to deliver the product when the customer wants it.

The quality of fresh produce can also be assessed on the basis of intrinsic and extrinsic quality attributes. Intrinsic quality is related to the physical attributes of the product, while extrinsic quality is related to the brand, the package, the place of purchase and the price (Batt 2007). Post-purchase, quality is assessed through experiential quality attributes that include taste, texture and flavour (Harker 2001). As suggested by Batt and Sadler (1999) the intrinsic and extrinsic quality attributes most often used by consumers to select fresh fruit from a retail store are poor indicators of the experiential (eating) quality.

Increasingly, consumers want to know that their food is safe, where it come from, how it was produced and who handled it (Batt 2007). Proof of chain is becoming a key requirement, especially with regard to the various credence attributes such as how the product was produced, the means by which it was produced and what steps the growers, wholesalers and retailers have been taken to minimise the environmental and social impact of production on the community and society at large.

According to Retail Business (1997), for most retailers, the quality of the fresh produce that is sold in-store is regarded as a key determinant in the consumer's choice of store because it provides an attractive, fresh and colourful display. As recommended by Codron *et al.* (2005), appearance

should be considered as a sensory attribute, for there is anecdotal evidence to indicate that most "consumers eat with their eyes" (Hughes 1999). Furthermore, fresh produce also contributes the highest profit margin to the retailers' bottom line.

While price is always an important consideration in the decision to purchase, perceived value is of much greater significance. Anderson and Narus (1999) use value to express, in monetary terms, the functionality or performance of the market offer in a given customer application. Fornell *et al.* (1996) describe perceived value as the perceived level of product quality relative to the price paid. Value is achieved when the proper function is secured for the proper cost. Because functions can be accomplished in a number of different ways, the most cost efficient way of fully accomplishing a function will establish its value. Here, the concept of value-in-use constitutes the price that will equalise the overall costs and benefits of using one product over another (Hutt and Speh 1995).

Over the last fifteen years, there has been an increasing realisation of the positive aspects of long-term relationships on the effectiveness and efficiency of marketing channels. Ravald and Gronroos (1996) emphasise the importance of value creation through relationships. They propose that value cannot be derived solely from the core product (technical quality) and the supporting services offered (functional quality), but also from the relationship itself. By necessity, this has resulted in the establishment of long-term relationships with preferred buyers who are capable of meeting the supplier's expectations.

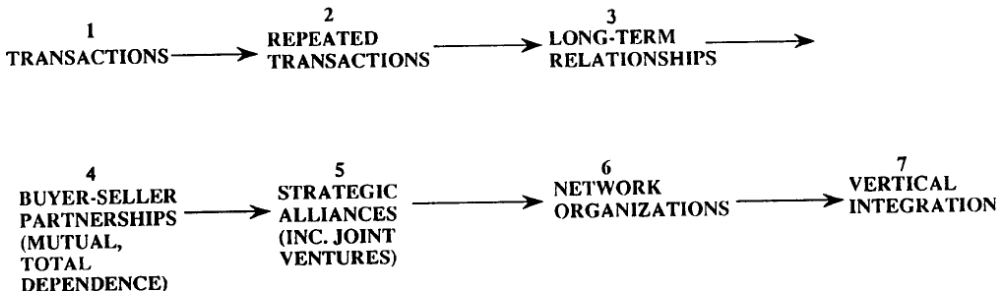
In the fresh produce industry, the traditional ways of conducting business are progressively giving way to long-term supply contracts (Kurnia and Johnston 2001). The transition from transactional exchange to relational

exchange is facilitated by numerous repeat transactions which build satisfaction and trust and lead to customer loyalty (Christopher *et al.* 1991; Ferguson and Brown 1991; Kotler and Bloom 1984). As Gronroos (1995) indicated, while the goal of transactional marketing is to get customers, the goal of relational marketing is to retain customers.

According to Gronroos (1991), the relational marketing strategy is substantially different with regard to the market orientation, the quality function, customer information, the interdependency between business functions, and the role of internal marketing. Zuurbier and van Roekal (2000) identified the following 'critical success' factors as necessary in providing successful relational outcomes: (1) trust; (2) good selection of suppliers and/or buyers; (3) good supplier/buyer performance (in terms of logistics and flexibility); (4) openness and reliability; (5) a balance of power; (6) communication; and (7) competence to manage the partnership.

Webster (1992) describes a marketing continuum anchored at one end by discrete transactions and the other by vertically integrated organisations (Figure 3.1).

Figure 3.1: The range of marketing relationships



Source: Webster (1992)

In the range of marketing relationships between the two poles lie a myriad of alternative ways to manage the resources from strategic alliances and written contracts to vertical integration (Hobbs 1996; Wilson 1996). Discrete transactional exchange normally involves a short-term exchange with a discrete beginning which ends without any commitment between buyer and seller. It is the most minimal form of relationship (Fontenot and Wilson 1997). In discrete transactions, each event is independent and assumes that all the information needed is contained in the price. The price is established by the market and there is no prior or anticipated future interaction between the buyer and seller. Discrete transactions are often adversarial as both buyer and seller attempt to achieve the best economic outcome from the transaction (Webster 1992).

A pure discrete transaction is followed by a repeated transaction, where at least one past exchange between buyer and seller has occurred. For repeat transactions, there is some trading history. Exchange will be based on satisfaction and the reputation established from prior transactions, as both buyers and sellers know that their exchange partner can be relied on. However, no relationship has been established at this stage because no investment or adaptation of the product or process has been made.

Over time, with commitment from both buyers and sellers, repeat transactions may evolve into long-term relationships. Initially, long-term relationships are likely to involve some adversarial behaviour as the exchange partners seek to secure more control (Fontenot and Wilson 1997). When some consensus has been reached, mutual dependence between buyers and sellers may subsequently emerge through the development of partnerships.

Buyer-seller partnerships indicate interdependence between firms for a particular activity or resources. In a partnership, the firms experience mutual benefits (cost savings, production efficiencies, etc) and prices may be negotiated with minimal market pressure (Fontenot and Wilson 1997). However, both buyer and seller must show commitment to the relationship (Spekman 1998).

Berry (1995) noted that the establishment of long-term buyer-seller relationships can offer advantages to both the producer and the buyer. Developing long-term relationships can improve access to markets and provide more reliable market information (Low 1996). Buyers can anticipate improved access to a more reliable supply of production inputs (Arndt 1979; Hakansson 1982), improved product quality and performance (Landeros and Monczka 1989; Han *et al.* 1993) and a higher level of technical interaction in the form of information exchange, potential product adaptations and technical assistance (Cunningham and Homse 1982).

Through becoming closer to customers and better understanding and satisfying customers needs, suppliers can achieve greater customer loyalty and higher repeat sales (Evans and Laskin 1994; Lohtia and Krapfel 1994; Kalwani and Narayandas 1995; Leuthesser 1997). Relationship marketing provides a stronger, longer-term customer benefit that is more difficult for competitors to match and it becomes more difficult for competitors to enter the market (Hakansson 1982; Turnbull and Wilson 1989; Heide 1994). Suppliers benefit from being able to better plan and forecast production schedules (Lohtia and Krapfel 1994), coordinate deliveries and to undertake joint promotions (Easton and Araujo 1994).

Morgan and Hunt (1994, 22) define relationship marketing as all marketing activities directed towards establishing, developing and maintaining successful relational exchanges. The essence of relationship marketing is the creation of trust and commitment. However, many researchers claim that successful relationship marketing is only achievable where there is mutuality of interest between the exchange parties (Blois 1996; Heide 1994; Wilson 1995). Nevertheless, there is a need to recognize that the term "relationship marketing" does imply that the concept is being examined from the customers' point of view. In the first instance, a supplier should never take actions that might be contrary to the customer's interests. In the second instance, relationships are seldom symmetrical (Gummesson 1994) and thus, the customer will invariably set the agenda.

According to Porter (1998), power plays an important role in buyer-seller relationships, for power determines the extent to which customers can retain most of the value created for themselves. Hingley (2005) discusses the power imbalance in vertical food supply channels in the UK, noting that power is not always negative.

3.4 Evaluating trading partners

The selection of trading partners is one of the most important decisions to be made in business-to-business marketing. According to Jensen (2002), the choice of exchange partners, when viewed from a dynamic relational perspective, is based on previous experience and anticipated future cooperation. According to Gronroos (1994), relationship marketing can help suppliers identify which buyers they wish to have relationships with and how to create greater value from these relationships. The literature emphasises that if partners are well selected, based on their capabilities

and motivation (Ford 1984; Stump and Heide 1996), the cost of opportunistic behaviour can be reduced.

Lehmann and O'Shaugnessy (1974) indicate that when making the decision to purchase, company reputation and thus source credibility may become an important decision variable. In other situations, suppliers may seek to reduce uncertainty by only considering well-known buyers. These buyers may be reputable market leaders like supermarkets, or alternatively, the supplier may seriously consider only those buyers with whom it has previously transacted (Beckman *et al*. 2004). As indicated by Jackson (1985), customers feel more exposed when they purchase from less well-known suppliers, and so presumably, suppliers may feel the same when they sell their product to less well-known buyers. For the buyers, Anderson and Weitz (1992) suggest that purchasing from reputable, trustworthy suppliers may reduce the buyer's risk of being mistreated.

In selecting suppliers, Ellram (1990) used two different criteria including quantifiable or "hard" criteria (price, delivery, quality and service) and difficult-to-quantify or "soft" criteria (management compatibility and strategic direction of the supplier). This implies that the criteria for the selection of buyers is one of continuous consideration and reconsideration. Monckza *et al.* (1998) also presented price, quality and reliable delivery as key supplier evaluation criteria. Jensen (2002) suggested that the critical factors from the supplier's perspective in selecting their downstream exchange partners included; (1) market capacity, (2) purchase price and the attached conditions of sale, and (3) confidence/reliability. Terms of payment offered by exchange partners were one of the most important factors to take into consideration because suppliers must often wait for extended periods in order to receive payment.

3.5 Chapter summary and implications

In Perth, WA, under the traditional system for marketing fresh produce, produce is consigned to wholesale market agents who endeavour to find buyers who are willing to pay the highest price for the quantity and quality of the produce offered for sale. Prices are determined primarily by supply and demand and the quality of the produce offered for sale (Folley 1973). The majority of business between producers and buyers in the wholesale market is conducted using repeat transactions. However, with the uncertainty of supply and the variation in the quality and quantity in the wholesale market, modern retailers cannot get what they require (Batt 2006). Most transactions between growers and large retailers now take place under a specified contract where various terms and conditions including volume, price and quality specifications are established (Dimitri *et al*. 2003).

When producers and customers deal directly with each other, there is a greater potential for emotional bonding. The more the exchange partners understand and appreciate each others' needs and constraints, the more inclined they become to cooperate with one another. Due to the perishable nature of the product involved in the fresh produce industry, personal relationships and trust between supply chain partners is of utmost importance (Wilson and Lavelle 1996). The majority of the value created from managing these transactions is typically derived from reductions in uncertainty, transaction costs and the optimisation of logistics (Lazzarini *et al*. 2001).

In the fresh fruit and vegetable industry, fruit quality will diminish at the wholesale and retail level as a consequence of the failure to maintain the cool chain (HAL 2001). Consequently, retailers are increasingly entering

into strategic alliances with preferred suppliers to ensure that they can secure a reliable supply of good quality fruit. However, in Australia generally and WA specifically, the concentration of retail outlets (just two or three major supermarket chains) is a major issue for WA apple growers. Growers report that with the increasing market share held by the supermarkets, they are effectively price takers. Goosen *et al.* (1994) indicated that the concentration of traders in the wholesale market must be sufficient to ensure that a fair price is established. In a centralised wholesale market, a typical transaction is characterised by many producers selling their produce to many buyers at the spot market price (Calvin *et al.* 2001). Cadilhon *et al.* (2003) described the wholesale market as an ideal place for supply and demand to meet.

Aggregation and concentration in the supply chain is encouraging those producers who are sufficiently large to by-pass the traditional wholesale market and to transact directly with the retailers. Batt (2003a), noted that the major retailers in WA were procuring greater quantities of fresh produce directly from the growers. However, as the growers move to transact directly with retailers, growers must perform a whole new range of activities to service their customers. Growers can either perform the selling, the physical distribution tasks on their own or engage specialist market intermediaries to do it for them. In the Perth Metropolitan Market, some market agents have repositioned themselves as category managers. By greatly enhancing the product or by introducing more supply chain integrity and efficiency into their operations, these new generation wholesalers are able to add significant value to their product offer quality (McGregor 2001).

Ultimately, the growers' decision as to whether to sell their produce at the farm-gate level or to add value to their product offer quality is largely

governed by the volume of produce they have available. Hingley (2005) noted that many of the larger growers preferred to transact with supermarkets, while the price was lower, because they could dispose of a greater quantity of the crop at a known predetermined price. Therefore, the risk and uncertainty associated with transactions through the wholesale market were greatly reduced.

CHAPTER 4

A PLURALISTIC APPROACH TO GROWER MARKETING DECISIONS

4.1 Chapter Outline

This chapter discusses the needs and benefits of a pluralistic approach to evaluate the grower's decisions regarding the choice of distribution channel. In order to examine the capabilities of apple growers in Western Australian to meet the needs of downstream market intermediaries, transaction cost analysis, gap analysis and an examination of the relationship marketing dimensions are employed.

4.2 Introduction

Uncertainty is the key dimension affecting organisations, inter-organisational relationships and the costs of transacting (Achrol *et al*. 1983). Uncertainty is defined as unanticipated changes in the circumstances surrounding an exchange (Noordewier *et al*. 1990). Uncertainty and risk is a typical feature of agricultural production. Besides the uncertainty and risk at the production level, there is much uncertainty surrounding the marketing of fresh produce. As the price at which fresh produce is bought and sold is mainly determined by supply and demand, growers are often uncertain as to what price they will receive for their produce. With regard to uncertainty in the marketing of fresh produce, Batt (2003) identified a number of different risks including: (1) price uncertainty, (2) the uncertainty relating to quantity and quality especially for buyers, (3) the intangible or experience attributes that can be only evaluated post purchase, and (4) the transaction uncertainty where

suppliers may not get paid because the agent goes broke or simply refuses to pay.

In relation to the literature, unexpected change arises in a number of ways: (1) need uncertainty arises from difficulties experienced in specifying the exact nature of the inputs (Hakansson and Wootz 1975; Hakansson *et al*. 1977; Hakansson 1982; Anderson *et al*. 1987; McQuiston 1989; Heide and John 1990); (2) market uncertainty reflects buyers incomplete knowledge of the market and potential source alternatives (Hakansson *et al*. 1977; Hakansson and Wootz 1979; Anderson and Weitz 1986; Oliver 1990); (3) transaction uncertainty considers the problems (including performance ambiguity) associated in getting the product from the supplier to the buyer (Hakansson and Wootz 1975; Hakansson *et al*. 1977; Ford 1982; Hakansson 1982; Achrol *et al*. 1983; Jackson 1985; Heide and John 1990; Oliver 1990; Heide 1994); (4) uncertainty in the output sector is attributed to the poor marketing capabilities of channel actors further down the supply chain (Achrol *et al*. 1983; Anderson and Weitz 1986); and (5) environmental uncertainty considers changes in the physical, technological and economic environment (Webster and Wind 1972; Heide and John 1990).

Uncertainty prompts firms to establish and to manage relationships in order to achieve stability, predictability and dependability in their relationships with others (Oliver 1990). Performance is thought to improve when more relational market structures are introduced in response to high levels of uncertainty. When suppliers are more inclined to respond favourably to buyer's requests for changes, buyers are able to adjust more readily to changes in the environment. The willingness of suppliers to assist buyers potentially enables buyers to adapt to uncertainty more effectively. Similarly, when buyers provide information to suppliers, the

supplier, in turn, is better able to respond to the buyer's requests (Noordewier *et al.* 1990).

There is, within marketing itself, a move away from discrete transactions towards enduring long-term relationships, partnerships and alliances with preferred trading partners (Morris *et al*. 2001). As both social and economic criteria are important during the exchange, a pluralistic approach is more reliable in evaluating alternative exchange partners. In this study, the cost and benefits of each alternative from both an economic and a social perspective will be explored. High prices are not always worth pursuing if it means higher risk or greater uncertainty. Thus, the choices that growers make to reduce risk and uncertainty will have a significant impact on their profitability. In the context of this study, the criteria used by growers in selecting their preferred buyers will be examined. The use of transaction cost analysis, gap analysis and the relationship marketing variables will be used to explore the alternative costs and benefits associated with each choice.

Even although it is widely accepted that growers prefer to sell their produce to that market intermediary who offers the highest price, other related factors such as satisfaction, trust and commitment, communication and transparency, the volumes required, the range of product variants required, the packaging and the seasonality of the supply will be important criteria. As Congram (1991) indicated, as time passes and experience steps in, a long-term buyer becomes easier to work with because the communication channels are usually open and expand, the buyer’s needs and problems are known, and a comfortable working relationship exists. Thus, in most business-to-business situations, it is advantageous for both the supplier and the buyer to maintain a long-term relationship.

4.3 The need for a pluralistic approach to analyse the performance of supply chains

According to Jackson (1999), pluralism can be interpreted in the broadest sense as the use of different methods, methodologies and/or techniques in combination. As McGregor *et al.* (2004) noted, the use of one methodological approach is seldom sufficient to capture the decision-making process and its subsequent impacts.

Historically, academics have focused on discrete transactional exchange. However, during the 1990s, researchers such as Gummesson (1999), Sheth and Parvatiyar (1995) and Webster (1992) expanded their analysis to include the interaction between buyers and sellers. Pels *et al*. (2000) believes that the pluralistic approach needs to develop a conceptual model that allows diversity to be represented. Moreover, the pluralistic approach believes that the buyer's or seller's choice between a discrete transactional or relational exchange depends on both the environment and the buyer's or seller's interpretation of the exchange (Thorelli 1995). The search for competitive advantage has led organisations to move from their predominantly cost-based focus to one based on quality and value (Narasimhan and Das 1999). This implies that organisations have become more quality conscious (Rifai 1996) whereas traditional procurement strategies have focused primarily on price.

Transaction costs analysis (TCA) represents one possible approach for understanding and evaluating the performance of supply chains. TCA has the potential to be combined in an interdisciplinary setting with insights provided by the marketing, logistics and organisational behaviour literature (Hobbs 1996). TCA explains the behaviour of organisational activities (Williamson 1979), the vertical integration of production

(Williamson 1971; Klein *et al.* 1978), clan-like inter-firm relationships (Ouchi 1980) and the organisational culture. Social exchange refers to various types of social interactions in which two parties are engaged in activities directed towards one another to exchange valuable resources (Dwyer *et al.* 1987).

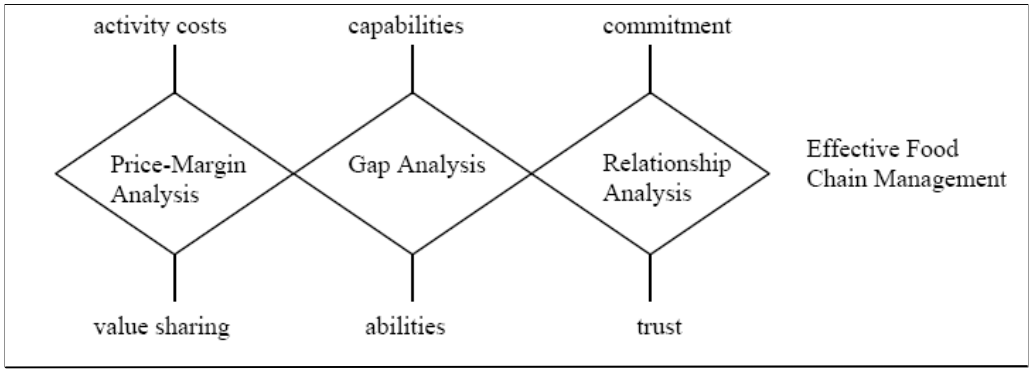
Marketing performance is basically a function of marketing effectiveness and marketing efficiency. Collectively, these determine how well customer needs have been satisfied and the costs that were incurred in performing the activity (Drucker 1973; McDonald 1982). Schroder and Marks (1996) identify six fundamental requirements for market efficiency in the food industry; (1) scale of operation; (2) strategic alliances; (3) production flexibility; (4) continuity of supply; (5) quality control; and (6) good communication. Li and O'Brien (1999) found that efficient and effective supply chains involved value maximisation, process integration, responsiveness and a reduction in cycle time.

Forsman and Paananen (2001) noted that direct marketing had a positive impact on the characteristics of the firm's offer and the buyer-seller relationship. Mudambi and Mudambi (1995) emphasised the importance of relationship marketing. Thus, measuring the effectiveness and efficiency of alternative market offers will require an assessment of both the economic and social factors. Efficiency is important because of its impact on prices, costs and margins. According to Shipley *et al.* (1991), the choice of distribution channel will play an important role in optimising the efficiency of the supply chain.

In determining the efficiency of alternative supply chains, the use of a pluralistic approach is limited. Aramyan *et al.* (2004) used a combination of Data Envelopment Analysis (DEA) and Truncated Regression Models

(TRM) to evaluate the efficiency of a mixed marketing channel versus the traditional auction for the Dutch vegetable sector. Batt (2003a) used a combination of marketing margins, gap analysis and long-term buyer seller relationships to examine the performance of the supply chain for potatoes in the Red River Delta in Vietnam. Herlambang *et al.* (2006) used price margin analysis, gap analysis and relationship marketing analysis to explore the alternative marketing chains for Manalagi mango in Indonesia. They identified the need to carry out activities to close the gaps between existing actors' abilities and what was required by the end customer, and the need for trust among participants in the supply chain (Figure 4.1).

Figure 4.1: Analytical frameworks for effective food chain management



Source: Herlambang *et al.* (2006)

For this study, three different approaches will be used including; (1) transaction cost analysis, (2) gap analysis and (3) relationship marketing. Transaction cost analysis looks at the activities performed by each actor in the supply chain, and the costs involved to perform those activities, relative to the price received. The second dimension, gap analysis looks at the ability of alternative suppliers to meet the customers' demand and in turn, the ability of the customer to meet suppliers' expectations. It looks at the gap between what each actor wants and what each actor gets from their transaction with preferred buyers and suppliers. The final

dimension, relationship marketing, is related to the social aspects of the transaction, which determines whether the exchange partners will seek to continue their relationship or not.

Buyer-supplier relationships can be understood as an exchange between two parties that involve not only a transaction but also social elements (Claro *et al.* 2003). Chu and Fang (2006) believe that trust plays an important role in the supply chain, for the lack of trust among partners can lead to ineffective and inefficient supply chain performance. As indicated by Herlambang *et al.* (2006), successful supply chain performance not only depends on closing the gap and reducing the cost of marketing activities, but also maintaining harmonious relationships among participants along the chain.

4.3.1 Transaction cost analysis (TCA)

Over the years, transaction cost analysis (TCA) has provided an enduring framework to understand how markets are coordinated. Transaction costs were first analysed by Coase (1937), and then further developed by Williamson (1975). TCA is concerned with how firms organise inter-firm relationships. Thus, it focuses on how firms can obtain maximum utility from their relationships with other firms by jointly minimising production and transaction costs through the creation and claiming of value (Ghosh and John 1999; Williamson 1985).

Following Williamson (1985), transactions occur when a good or service is transferred across a technologically separable interface. In general, transaction costs are defined as the costs of coordinating a transaction, which is a regulated distribution of goods or rights (Voβ and Schneidereit 2002, 260). According to Hobbs (1996), transaction costs are the costs of

carrying out any exchange of goods through different phases of production and distribution. These costs usually occur if there is any form of economic organisation. Martinez *et al.* (1999) stated that transaction costs are the expenses associated with facilitating transactions, including the creation of incentives, measuring performance and enforcing agreements to assure desired performance. TCA implies that economic activity is arranged to minimise such costs (Milgrom and Roberts 1992)

The main objective of TCA is to minimise cost or maximise profit for each organisation. Transaction costs are important because they affect the organisation of economic activity or "vertical coordination" (Hobbs 1996). According to Mighell and Jones (1963), vertical coordination includes all the ways of harmonizing the successive stages of production and marketing. The market-price system, vertical integration, contracting and cooperation are some of the alternative means to coordinate production and marketing.

Generally, transaction costs can be classified into three groups that relate to different stages of the transaction namely information, negotiation and monitoring costs. However, according to Hobbs (1996), transaction costs refer specifically to the costs of (i) price discovery, (ii) contract negotiation and (iii) fulfilling the exact specifications of the transaction. It is believed that a retailer's preference for a particular supplier will be influenced by the transaction costs that arise from transacting with that supplier, relative to the costs of transacting with alternative suppliers.

Furthermore, transaction cost theory suggests that customers will choose that alternative which can best minimise transaction costs (Buvik 2001). However, different types of buyer-supplier relationship will involve different levels and/or types of transaction cost (Hobbs 1996). According

to measurement cost theory, transaction costs basically relate to the cost of product information and the variability in product quality (Foss 1996).

Transaction costs have been found to be important in determining the nature of vertical coordination in agricultural supply chains (Frank and Henderson 1992; Hobbs 1996 and 1997; Stanford *et al.* 1999). Transaction characteristics such as: uncertainty of price or product quality; the frequency with which the buyer and seller conduct business, the need for asset specific investments; and the complexity of the transaction, all increase the desire to vertically integrate to avoid the problems associated with the costs of doing business at different points along the supply chain (Hobbs 1996).

In their study of a Danish pork supply chain, Hobbs *et al.* (1998) found that an efficiently organised supply chain could result in lower transaction costs and a more competitive industry in global markets. Boger *et al.* (2001) suggested that firms will adopt that governance structure which has the lowest transaction costs. This and other studies endeavour to view governance structures or vertical coordination as dependent variables, while transaction cost attributes (frequency, uncertainty and asset specificity) and behavioural assumptions (bounded rationality and opportunism) are independent variables.

A variety of disciplines, including psychology, political science, economic history and law have each contributed to the theoretical development of transaction cost analysis. Hobbs (1996) identified four key concepts that can be applied to this study including;

1) Bounded rationality

Although it might be the objective of an organisation or a person to make a rational decision, their capacity to assess all possible alternatives is physically restricted (Simon 1961). In very complex or uncertain situations, the capability of people to make rational decisions will be impeded, i.e. bounded rationality will occur.

2) Opportunism

Opportunism is defined by Williamson (1979, 235) as: "self-interest seeking with guile". Opportunism recognises the truth that some organisations and individuals will look to make use of a situation to their own benefit. Although this does not mean that everyone involved in a transaction will perform opportunistically all the time, it recognises that the possibility of opportunism is ever present. If the number of alternative suppliers is limited, the risk of opportunism is greater. The lesser the number of suppliers accessible to the buyer, the greater the chance that they could behave opportunistically and modify the terms of a transaction to their own benefit, such as demanding a higher price than that formerly agreed.

3) Asset specificity

The term asset specificity refers to an investment in physical assets that are dedicated to a particular supplier and whose redeployment entails considerable switching costs (Williamson 1985). According to Peterson and Wysocki (1998), asset specificity refers to the level to which an asset can be redeployed for alternative uses and alternative users, devoid of sacrificing its productive value. Asset specificity can occur in many different forms including a physical asset, a monetary asset, knowledge, a personal relationship and skills (Williamson 1991). It is a very important

concept in the TCA literature because it can cause dependence on the focal exchange partner (Ganesan 1994; Joshi and Stump 1999).

Asset specificity arises when one member of the dyad (Company X) makes an investment in resources that have little or no value in an alternative use. An example may be the setting up of specialised machinery in a production plant, or the development of manufactured goods, which are unique to a single customer. Company X then faces the threat that its trading partner (Company Y) will do something opportunistically, since Company Y is well aware that Company X has made an asset-specific investment and as a result is locked into the transaction. Company Y could for example, break a promise on the original agreement by offering Company X a lower price for the product.

4) Information asymmetry

Information asymmetry acknowledges the truth that business negotiations are characterised by incomplete, imperfect or asymmetrical information. Information asymmetry arises when information is accessible only to selected parties, i.e. all parties to the transaction no longer have the same levels of information (Williamson 1985). This asymmetry leads to ex ante and ex post opportunism. Ex ante opportunism means information is unseen prior to a transaction. This adversely affects other parties involved in the transaction, and is also recognised as adverse selection. In the case of ex post opportunism, a moral hazard arises from information asymmetry, because of the unseen actions of individuals or organisations. These parties may have the incentive to do something opportunistically to raise their economic welfare because their actions are not directly recognisable by other parties (Hobbs 1996).

4.3.1.1 Application of TCA in supply chains

There have been many methods or approaches applied by researchers in determining the efficiency of supply chains using TCA. Frank and Henderson (1992) applied multiple OLS regressions in analysing the influence of transaction costs as a determinant of vertical coordination among 42 U.S. food industries. Empirical analysis supports the proposition that transaction costs like uncertainty, input supplier concentration, asset specificity and scale economies, are the primary motivation for vertical coordination via non-market arrangements.

Behner and Bitsch (1995) investigated the relationships between plant propagators and vegetable growers in northern Germany. They employed a comparative institutional analysis framework based on primary and secondary data. The authors found that information asymmetry problems develop from a combination of uncertainty, opportunistic behaviour and evaluation difficulties. For a continuing relationship, reputation and "fair dealing" in the case of claims and an advisory service for growers provided by the propagators were the most important factors.

Hobbs (1996) analysed transaction costs as a key factor for processors' selection of supply channels in the U.K. meat processing sector. The conjoint analysis, based on survey data from 93 meat processors, showed that monitoring costs arising from product traceability were important in the choice of vertical coordination. In addition, pressures for greater traceability increased the demand from downstream firms to move towards closer forms of vertical coordination.

Hobbs (1997) tried to measure the importance of transaction costs in the cattle industry by examining the choice between live-ring auctions and

direct-to-packer sales. She employed a two-limit tobit model to the data obtained from a survey of 100 cattle producers in the U.K. She found that four transaction cost variables were significant, namely grade uncertainty surrounding direct-to-packer sales, the risk of non-sale at auction, the time spent at the auction and adequacy of the packer procurement staff.

Poole *et al.* (1998) tried to identify the important factors affecting producers' marketing decisions and to suggest whether a formal contract facilitated producers' marketing decisions, reduced uncertainty and thus lowered transaction costs in the Spanish citrus industry. The results of this study, which were based on a survey of 300 citrus producers, demonstrated the importance of price uncertainty and payment in producers' marketing decisions. More specifically, the certainty of payment and the price paid was guaranteed by reputation and by previous experience.

Zaharieva *et al.* (2001) investigated the choice of supply channels by Bulgarian wine makers by applying a case study approach. They identified four types of channel, where the costs of using each channel differed with varying degrees of information transmission from processors to growers. The case studies revealed that despite the difficulties created by an underdeveloped market and barriers to investment finance, the expected long-run benefits of vertical integration offered sufficient incentives for firms to pursue alternative ways to conduct business.

Boger (2001) examined the marketing arrangements between Polish hog producers and buyers in an evolving market. She employed various multivariate techniques based on a sample of 200 Polish hog producers. Multinomial logit analysis suggested that producers' choice between large

processors as opposed to traders and local slaughterhouses could be predicted by the type of contract. Cluster analysis showed four distinct groups of farmers according to their: ability to safeguard assets, degree of coordination with buyers, use of grading and written contracts, and the amount of bargaining power.

Fertó and Szábo (2002) tried to investigate farmer's choice of various supply channels in the Hungarian fruit and vegetable sector by employing a TCA framework. Their analysis was based on a survey of 62 fruit and vegetable producers in Csongrád County with respect to the choice of marketing channels. A multinomial logit model was applied to reveal the determinants influencing the choice among various supply channels.

4.3.2 Gap analysis

According to Fiegenbaum (1991), quality is a customer's judgement of the value received from an earlier product experience measured against their stated requirements. However, Batt (2006, 85) defines quality more simply as providing customers with products that consistently meet their specifications. However, in considering quality, it is not just product quality that is important, but also the quality of the way suppliers go about meeting the needs of their customers, providing the product on time, in the quantity required, correctly packaged and correctly invoiced. Quality is about being able to meet customer's special requests, being responsive and proactive (Batt 2006).

In describing a supplier's offer quality, Gronroos (1990) differentiates between technical quality and functional quality. Technical quality describes the customer's specifications. This is a physical description of the product in term of its size, shape, colour, freedom from pests and

diseases, purity (in terms of its freedom from chemical contaminants, pathogenic organisms and genetic modification), maturity or freshness and the manner in which the product is packed (Batt 2006).

Functional quality on the other hand represents the way a supplier goes about delivering the product to the customer (Gronroos 1990). This fundamentally means suppliers being able to deliver the product when the customer wants it. However, it also involves many inter-related activities such as production scheduling, storage and warehousing, logistics, ordering and invoicing. Since most market intermediaries purchase products in the expectation that they will be able to resell them, the timely arrival and efficient receipt of goods is critical to the success of most downstream manufacturing and retail operations (Batt 2006).

More recently, Parasuraman (1998) has introduced a third dimension called service quality, which Batt (2006) describes as the extra things a supplier is willing to do to retain the customers business. For service quality, most of the indicators of quality come from referrals unless the client has had some prior experience with the provider (Patterson 1995; Day and Barksdale 1992). According to Day and Barksdale (1992), the main criteria used in assessing service quality at the time of supplier or buyer selection were experience, expertise and competence; understanding client's needs and interests; interaction, relationships and communication.

Hoffman and Bateson (1997) found that service quality can result in many rewards for an organisation: it can deliver both repeat purchases and new customers. Furthermore, enhancing service quality can result in cost savings and financial benefits over the long-term (Davis 1992, Rowen 1992). Stanley and Wisner (2001) found a strong positive relationship

between the quality of products and the service quality provided to external buyers.

4.3.3 Relationship marketing

Exchange relationships are the essence of marketing (Bejou 1997). Berry (1983, 25) defined relationship marketing as "attracting, maintaining and enhancing customer relationships". Thus, relationship marketing can be seen as something that will encourage multiple business transactions between buyers and sellers. However, Sweeney and Webb (2002) believe that the motivation to maintain a relationship depends on the benefits gained by relationship partners.

Recently, an increasing number of marketing studies have focused on the nature of long-term buyer-seller relationships and the most significant variables which contribute towards the development and maintenance of these relationships. Long-term relationships between buyers and sellers are being promoted as essential in the long-term development of production systems and supplier capabilities (Lamming and Hampson 1996; Handfield *et al.* 2000; Scannell *et al.* 2000).

According to Wilson (1995), there are a number of variables that contribute to the maintenance of collaborative long-term relationships. The most support can be found for the key constructs of satisfaction, trust, communication, commitment, relationship specific investments, power, dependence and opportunism (Morgan and Hunt 1994; Batt 2003).

4.3.3.1 Satisfaction

Satisfaction is an overall (positive) evaluation based on the total purchase and consumption experience with a good or service over time (Anderson

et al. 1994). Thus, satisfaction is the extent to which the supplier meets the buyer's expectations (Wilson 1995). According to the disconfirmation of expectations model, customer satisfaction is the result of a comparison between the firm's performance and customer's expectations (Oliver 1980; Tse and Wilton 1988). Whenever performance exceeds expectations, satisfaction will increase. Conversely, whenever performance falls below expectations, customers will become dissatisfied.

Expectations are beliefs about the likelihood that a product is associated with certain attributes, benefits or outcomes (Spreng *et al.* 1996). Expectations will relate, either favourably or unfavourably, to whatever prior consumption experience the customer has had of the firm's offer and a forecast of the supplier's ability to deliver in the future (Fornell *et al.* 1996). Especially in mature, stable markets, expectations should not only reflect the quality of the firm's current offer, but the buyer's ability to learn from their experience and to accurately predict the levels of quality and value they will receive.

Frazier *et al.* (1989), described channel member satisfaction as a positive affective state resulting from an appraisal of all aspects of a firm's working relationship with another. Expanding the concept, Geyskens *et al.* (1999) proposed that satisfaction should capture both the economic and non-economic (psychological) aspects of the exchange. Economic satisfaction was defined as the channel member's positive affective response to the economic rewards that flow from the relationship with its partner. From an economics perspective, performance could be viewed as the key reward and price as the key sacrifice associated with an exchange (Voss *et al.* 1998). However, where potential customers use price as a cue in forming performance expectations, if the price charged is the same as the price quoted prior to purchase, the extent to which pre-purchase

expectations influence post-purchase evaluations will depend on the degree of consistency between price and performance. In other words, the extent to which pre-purchase expectations are met by performance must be consistent with the price.

Social satisfaction is derived from the channel member's positive affective response to the non-economic aspects of the relationship in that interactions with the exchange partner are fulfilling, gratifying and easy (Geyskens *et al*. 1999). A channel member satisfied with the social aspects of the exchange appreciates the contact with its exchange partner and, on a personal level, likes working with that partner because it believes the partner is concerned, respectful and willing to exchange ideas. As a result, satisfaction leads to increased moral and greater cooperation between channel members (Ganesan 1994; Morgan and Hunt 1994). Wilson (1995) suggests that, over time, cooperation within the relationship will ensure both parties are treated fairly and equitably.

Satisfaction has been defined variously as the buyer's cognitive state of being adequately rewarded for the sacrifices undergone in facilitating the exchange (Frazier 1983). Customer satisfaction usually results in higher repeat purchases, referrals to other customers, positive word-of-mouth and lower transaction costs (Evans and Laskin 1994). Satisfaction encourages greater loyalty and a long-term working relationship (Anderson and Narus 1990). Exchange partners that experience high levels of satisfaction are less likely to leave a relationship or to look for alternative partners (Ping 1994).

4.3.3.2 Trust

According to Moorman *et al.* (1993), trust is the willingness to rely upon an exchange partner in whom one has confidence. Anderson and Narus (1990, 45) defined trust as "the firm's belief that another company will perform actions that will result in positive actions for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm". Morgan and Hunt (1994, 23) also defined trust as "a firm's belief in its partner's trustworthiness and integrity". While these definitions view trust as a behavioural intention that reflects reliance on the other partner, these definitions, in part, capture quite different aspects of the construct. Moorman et *al.* (1993) definition of trust as a belief, a sentiment or an expectation about an exchange partner, results from the partner's expertise, reliability and intentionality. This component of trust, which Ganesan (1994) describes as credibility, is based on the extent to which the buyer believes that the supplier has the necessary expertise to perform the activity effectively and reliably.

Swan *et al.* (1985) indicate how competence, customer orientation, honesty, dependability and likeability are the key dimensions in developing trust between sales representatives and their customers. Moorman *et al.* (1993) argue that the interpersonal factors that most affect trust include perceived expertise, sincerity, integrity, tactfulness, timeliness and confidentiality. Trust increases the partners' tolerance for each others behaviour, facilitating the informal resolution of conflict, which in turn, allows the partners to better adapt to the needs and capabilities of the counterpart firm (Hakansson and Sharma 1996).

However, trust also relates to the focal firm's intention to rely on their exchange partner. Ganesan (1994) describes this component as benevolence, because it is based on the extent to which the focal firm

believes that its partner has intentions and motives beneficial to it. A benevolent partner will subordinate immediate self-interest for the long-term benefit of both parties and will not take actions that may have a negative impact on the firm (Geyskens *et al.* 1998).

When trust exists, both partners believe that long-term idiosyncratic investments can be made with limited risk because their opposite party will refrain from using their power to renege on contracts or to use a change in circumstances to obtain profits in their own favour (Ganesan 1994; Doney and Cannon 1997). Trust reduces the necessity for structural mechanisms of control (Achrol 1997) and partners learn to become more interdependent (Kumar 1996).

However, trust between firms does not occur automatically. Experience with the channel partner breeds trust (Dwyer *et al.* 1987; Anderson and Weitz 1989). Achieving a trusting relationship and a reputation for trustworthiness requires a deliberate strategy of forbearance with a view towards future pay-offs and accumulated evidence of non-reneging behaviour (Parke 1993). With trust, there is an increasing willingness to put oneself at risk, be it through intimate disclosure, reliance on another's promises or sacrificing present rewards for future gains. Once trust is established, firms learn that coordinated joint efforts lead to outcomes that exceed those that the firm could achieve if it acted solely in its own best interests (Han *et al.* 1993).

Common to the different definitions used to conceptualise trust is the notion that trust constitutes a belief, an attitude or an expectation by a party that the exchange partner's behaviour will be to the trusting party's own benefit (Andaleeb 1992). For suppliers, trust means reliability in terms of quality and on time delivery whereas for customers, trust means

reliability in terms of planning and keeping order commitments (Campbell 1998a).

Kwon and Suh (2005) found that a firm's trust in their supply chain partner was associated with both parties' specific asset investments. Furthermore, information sharing also had an influence in reducing the uncertainty associated with an exchange partner, which in turn improved the level of trust.

Trust exists in many different forms including: contractual trust (expectations that promises are kept), competence trust (confidence in trading partner's competence to carry out a specific task) and goodwill trust (the sure feeling that trading partners possess a moral commitment to maintain a transactional relationship). According to Sako (1992), goodwill trust is the key to a true partnership.

4.3.3.3 Commitment

Commitment is a useful construct for determining customer loyalty as well as for predicting future purchase frequency (Gundlach *et al.* 1995; Morgan and Hunt 1994; Dwyer *et al.* 1987). Commitment refers to an implicit or explicit pledge of relational continuity between exchange partners (Dwyer *et al.* 1987). Such implies that the relationship is important and that there is a desire to continue the relationship into the future (Wilson 1995).

According to Moorman *et al.* (1993), commitment is an enduring desire to maintain a valued relationship. This definition contains three elements that appear consistently in the literature. First, commitment is enduring. It involves an implicit or explicit understanding that the partners will continue to work together after the current transactions are completed and

will jointly face new and potentially unforeseen issues as they arise (Dwyer *et al.* 1987; Macneil 1980). Second, commitment reflects a desire. It is based on personal choice rather than a legal obligation. While committed partners may be bound by short-term contractual arrangements, they choose to continue their relationship after their current legal obligations are fulfilled (Dwyer *et al.* 1987; Macneil 1980). Third, commitment is driven by value. Trading partners form long-term relationships only if they believe that they will derive some long-term benefit from the arrangement (Anderson and Weitz 1992; Dwyer *et al.* 1987; Goodman and Dion 2001; Morgan and Hunt 1994). This implies a higher level of obligation to make a relationship succeed and to make it mutually satisfying and beneficial (Gundlach *et al.* 1995; Morgan and Hunt 1994).

Morgan and Hunt (1994) propose that a firm will commit to an exchange partner when the relationship is considered so important as to warrant maximum efforts to maintain it. Committed parties are willing to invest in transaction-specific assets, demonstrating that they can be relied upon to perform essential functions in the future (Anderson and Weitz 1992). Thus, commitment implies the adoption of a long-term orientation towards the relationship; a willingness to make short-term sacrifices in order to realise longer-term benefits (Dwyer *et al.* 1987). The long-term orientation is based on the assumption that the relationship is stable and will last long enough for both parties to realise the longer-term benefits. Since commitment is higher among individuals who believe that they receive more value from the relationship, highly committed customers should be willing to reciprocate effort on behalf of a firm due to past benefits received (Mowday *et al.* 1982).

4.3.3.4 Communication

In situations characterised by high uncertainty, potential buyers will form a complex communications network involving many different organisations who have regular contact with the firm (Hakansson *et al.* 1977). Communication can be defined as "the formal as well as informal sharing of meaningful and timely information between firms" (Anderson and Narus 1990, 44). Communication enables information to be exchanged which may reduce certain types of risk perceived by either firm involved in the transaction. Furthermore, any uncertainty about a customer's or suppliers' organisational structure, viability, methods of operation, technical expertise or competence, can be resolved by personal contact between the parties (Batt and Purchase 2004).

Communication has been described as the glue that holds together a channel of distribution (Mohr and Nevin 1990). Communication in marketing channels serves as the process by which persuasive information is transmitted (Frazier and Summers 1984), participative decision making is fostered, programs are coordinated (Anderson and Narus, 1990), power is exercised (Gaski 1984) and commitment and loyalty are encouraged (Anderson and Weitz 1992). Sharma and Patterson (1999) also indicate that communication was the key driver and the most influential determinant for relationship commitment.

Communication not only improves the supplier's credibility, but may also provide a convenient and simple means of gaining knowledge of the supply market. Communication facilitates other elements of the interaction such as adaptations by suppliers and customers to the design or application of a product, or, the modification of production, distribution and administrative systems by either party.

Personal contact serves as the medium through which most communication between buying and selling firms occur. In the majority of cases, personal contacts and information exchange precedes the exchange of money and products (Cunningham and Turnbull 1982; Ford 1982). Personal contacts are the normal means of persuasion and negotiation in organisational buying and selling. Both buyers and sellers prefer personal contact to written communication; face-to-face meetings are more desirable and negotiations between parties are best conducted on a person-to-person basis. However, personal contacts may also be established as a form of crisis insurance. In times of extreme difficulties, firms may utilise these contacts as a means of obtaining more rapid or dramatic action. Other relationships may exist purely for social reasons and are not necessary for the business objectives of either firm.

As channel members in relational channel structures are more interdependent, a higher level of communication is necessary because the firms need to share more information. An exchange of information allows the firms to coordinate their interdependence leading to a credible commitment (Landeros and Monczka 1989). Since the parties in a long-term relationship are more likely to trust one another and to share compatible goals, communication occurs with a higher frequency and more bi-directional flows, more informal modes and more indirect content (Mohr and Nevin 1990).

Conversely, communication difficulties are the prime cause of channel conflict (Mohr and Nevin 1990). Ineffective communication leads to misunderstandings, incorrect strategies and mutual feelings of frustration. The establishment of various structural mechanisms that provide real-time information and accurate feedback regarding each partner's actions,

including effective recognition, verification and signalling systems between firms will minimise misperceptions and strengthen cooperation.

4.3.3.5 Relationship Specific Investment (RSI)

Relationship specific investments (RSI) are investments made specific to a channel relationship. Investments are the means through which resources are committed in order to create, build or to acquire other resources to be used in the future (Easton and Araujo 1994). Håkansson and Gadde (1997) refer to these investments as adaptations. This means that a particular supplier or buyer is handled in unique ways to achieve cost advantages or to gain access to a firm's unique competencies or resources. Adaptations can be viewed as a necessary investment for the benefit of the relationship. They may take the form of tailoring resources to the requirements of a certain customer or supplier through durable transaction specific investments (Williamson 1979).

Adaptations are generally considered to have a positive impact on the long-term well being of the relationship. Through interacting with other firms and committing resources to specific relationships, firms have the opportunity to use relationships as a resource for the creation of other resources, product adaptations and innovations, process improvements, or to provide access to third parties (Håkansson and Snehota 1995). Relationships have important effects on the development of technical competence and the capabilities of a firm. They affect the firm's productivity, innovativeness and competence and thus its performance potential. The willingness of a supplier to make various adaptations, whether they are technical, knowledge based, economic or legal (Håkansson and Gadde 1992), means that the supplier considers it beneficial for the relationship and is committed to its future (Ford 1980).

RSI provide tangible evidence that the supplier can be believed, that they care for the relationship and are willing to make sacrifices (Ganesan 1994). Organisations that adapt to the needs of their exchange partner generally have strong social ties with their business partner and are mutually interdependent. This is because such investments are often difficult if not impossible to allocate to another relationship. Therefore, they loose substantial value if the relationship is terminated (Jackson 1985; Dwyer *et al*. 1987; Morgan and Hunt 1994).

However, when adaptations are continually requested by only one party, and decisions about their appropriateness and necessity are decided unilaterally rather than bilaterally, the firm required to make the adaptations may lose the capability to make its own decisions about the future of the relationship. In so doing, its commitment towards the other firm will decline and the goodwill may be lost. Small suppliers must often adapt to the requirements of their customers and, over time, may become increasingly "locked in" and more dependent on existing relationships (Håkansson and Snehota 1998).

4.3.3.6 Dependence

Dependence refers to a firm's need to maintain an exchange relationship to achieve desired goals (Frazier 1983). When the outcomes obtained from the relationship are important or highly valued, the focal firm is more dependent (Heide and John 1988). Dependence is also increased when the outcomes from the relationship are comparatively higher than or better than the outcomes available from alternative relationships. Firms dealing with the best supplier are more dependent because the outcomes associated from dealing with that supplier are better than those available from poor performing suppliers.

In this context, dependence is a measure that represents the overall quality of the outcomes available to the focal firm from the best alternative exchange relationship (Heide and John 1988). A firm is considered to be more dependent upon another when its partner provides a larger proportion of its business. The higher the percentage of sales and profits that are achieved by handling a partner's product line, the more the focal firm is dependent (Frazier *et al.* 1989).

Furthermore, when fewer alternative sources of exchange are available to the focal firm, or when replacing or substituting a current exchange partner is difficult because there are fewer alternatives, dependence will increase (Heide and John 1988; Frazier *et al.* 1989). Dependence is also a function of the magnitude of the transaction specific investments made (Heide 1994; Lohtia and Krapfel 1994). By making idiosyncratic investments in a relationship, the firm creates an incentive to maintain the relationship.

However, in the purchasing and supply literature, relationships are often viewed as being confrontational (Håkansson and Gadde 1992). Firms are assumed to be motivated to reduce dependence, for dependence in an exchange relationship may make one party more susceptible to the power and influence of the other (Heide and John 1988). With increasing dependence comes greater vulnerability (Krapfel *et al.* 1991), for the more powerful partner may be in a position to create more favourable terms of trade for itself (Heide and John 1988 and Frazier *et al.* 1989). However, dependence does not, in and of itself, inevitably result in exploitation (Geyskens *et al.* 1996). In most exchange relationships, both parties are to some degree dependent on each other (Gundlach and Cadotte 1994).

4.3.3.7 Power

Emerson (1962, 31) defines power as the capability of an actor to get someone to do something that they would not have ordinarily done. Power can be obtained through the possession and control of resources that another channel member wants and values (Stern and El-Ansary 1992). According to French and Raven (1959), power can be derived from various sources including reward power, coercive power, legitimate power, referent power and expert power.

According to Maloni and Benton (2000), the different sources of power will have very different effects on the buyer-seller relationship. Thus both the source of power and the power target must be able to recognise the presence of power. Hingley (2005) believes that there is an imbalance of power between producers and retail buyers in the UK fresh produce industry, where if producers wish to transact directly with the retailers, they must yield to the buyer's requests or risk exclusion.

An exchange relationship often makes one firm more susceptible to the power and influence of another, leading to a situation where the more powerful partner is in a position to demand more favourable terms of trade (Frazier *et al.* 1989). When a channel member frequently pressures or coerces its partner into taking some action that it otherwise would not have taken, or it is forced to forgo some positive outcome, the focal firm is expected to feel tension and frustration because its decision autonomy is constrained and satisfaction within the exchange will decline (Frazier 1983). When one party feels threatened by the exercise of power, the weaker party is more likely to withdraw and to seek an alternative exchange partner (Hingley 2005).

While the more powerful partner may use coercive power to achieve immediate compliance, the use of non-coercive influence strategies will signal trust and the desire to work together. Non-coercive influence strategies include information exchange, a discussion of business practices and requests (Frazier and Summers 1986). Benton and Maloni (2005), suggest that the use of expert and referent power will strengthen the relationship between supply chain actors. Bretherton and Carswell (2002) suggest that those relationships where power is more balanced tend to be more enduring.

4.3.3.8 Opportunism

Opportunistic behaviour exists when one party exploits a situation to its own advantage during a transaction (Blois 1996). Williamson (1975, 9) aptly defined opportunistic behaviour as "a lack of candour or honesty in transactions, to include self interest seeking with guile". Hence, opportunistic partners are those who provide incomplete or biased information which misleads or confuses their exchange partners (Williamson 1985).

The reason to engage in opportunistic behaviour in cooperative relationships arises because one party finds it advantageous to maximise its own gains at the expense of the relationship. If either party to an exchange relationship chooses to behave opportunistically, it is likely to provoke retaliatory behaviour (Parke 1993). Furthermore, with trust and confidence in the relationship undermined, the aggrieved party will seek to withdraw or to limit their commitment to the relationship over time.

The inability to determine an exchange partner's actions also increases the chances of opportunism (Heide 1994). Thus, it is important to know the trading partner in order to avoid opportunistic behaviour during the

exchange. Where firms have developed the reputation as a selfish, exploitative and unreliable exchange partner, it will decrease the likelihood of them participating in future cooperative relationships.

The level of collaboration, as well as the prevention mechanism adopted by the focal firm, will depend on the potential for opportunistic behaviour (Das 2005). According to Wathne and Heide (2000), opportunism increases outcomes for the opportunistic party; however this behaviour restricts value creation, increases costs, and decreases revenues for both buyers and sellers. Thus, opportunism has a negative association with performance in exchange relationships

4.4 Chapter summary and implications

In determining the selection of preferred trading partners, transaction cost analysis has been widely used. However, in this study a combination of transaction cost analysis, gap analysis and relationship marketing dimensions will be applied to assess the means by which growers choose the desired distribution channel. Each of these methodologies will explore different aspects of the exchange transaction, yielding insights that no single methodology can provide.

In Western Australia, with the move away from auction as the principal mechanism for establishing price in the fresh fruit and vegetable industry and the related decrease in transparency associated with private negotiation, trust between suppliers and buyers is becoming increasingly important (Batt 2003b). Social dimensions such as trust, commitment, satisfaction and communication become more important in exchange transactions when there is some uncertainty associated with the decision outcome and when the outcome is considered important.

Marketing decisions are expected to be primarily economic, but the exchange must also fulfil the customer needs. Thus, the decisions made will have resources implications for the growers and each of the downstream market intermediaries in the Western Australian apple supply chain.

CHAPTER 5

RESEARCH METHODOLOGY

5.1 Chapter Outline

In order to answer the objectives of the study, the data collection process must be executed in such a way as to facilitate the analysis and accurately represent the population from which the data was obtained. This chapter will discuss the questionnaire design, its administration and subsequent data analysis.

5.2 Introduction

A structured questionnaire was developed in order to obtain the required information from respondents based on transaction cost theory, industrial purchasing behaviour and relationship marketing theory (Appendix 1).

A questionnaire was developed for each group of participants in the Western Australian apple supply chain including apple growers, fruit packers, grower cooperatives, market agents, fruit processors, fruit exporters, secondary wholesalers/provedores and retailers. The questionnaire was divided into multiple sections. The number of sections each respondent completed depended upon how many different buyers and/or suppliers the respondent transacted with.

The use of a plural methodology was selected because it provided a greater insight into the factors that influenced the grower's decision to whom they would sell their fruit. According to Murray-Prior (2003), the use of a plural methodology may force researchers to question and

perhaps defend or reject the findings, given that each methodology will generate results that are constrained by their explicit and implicit assumptions. Since the decision to sell is made with due regard to both economic and social factors, the combination of transaction cost analysis, gap analysis and relationship marketing enables all aspects of the transaction to be adequately captured.

For this study, rather than to consider apples as a generic commodity, the two most widely grown apple varieties in Western Australia were selected: Granny Smith and Cripps Pink (Pink Lady). The selection of these two varieties was required in order to identify the differences in the price of apples for each variety. Besides that, the difference between a new apple variety such as Cripps Pink could be compared to an established variety such as Granny Smith.

5.3 Growers

The questionnaire was constructed to contain both open-ended and closed questions. The open-ended questions were used to give the respondents an opportunity to comment in an unbiased fashion. This method of questioning is useful for revealing unanticipated responses (Hair 1998). The closed questions incorporated a six point Likert scale ranging from 1 'strongly disagree' to 6 'strongly agree', or 1 'not at all important' to 6 'very important', or 1 'not at all well' to 6 'very well'.

The use of a Likert scale was used to help the respondents specify their level of agreement to the given statements. In this study, a six point Likert scale was used to stop the respondents from selecting the neutral mid point which arises when using either five point or seven point scales. Furthermore, respondents were provided with sufficient choice in

expressing their thoughts without encumbering them with too many response categories.

5.3.1 Grower's questionnaire design

Given the vast amount of information needed, the questionnaire was divided into five parts.

Part One: Nature of business

The first section of the questionnaire required respondents to provide general information on the nature of their fruit growing business. Respondents were asked to provide information about their apple orchard including:

1. Location of your orchard and/or postcode: …….
2. Size of farm (hectares): ……...
3. Total area planted in fruit trees (hectares): …….
4. Total area planted in apples (hectares): ……...
5. Number of years you have been growing apples? ……

Growers were then asked to estimate the quantity of apples they produced in 2003 and 2004. Growers were asked to record information for the past two years because of the tendency for apple trees to be biennial bearing.

6. For 2003 & 2004 harvest, what quantity of apples did you produce (tonnes)?
   Granny Smith (2003)……
   Pink Lady (2003)……
   Other varieties (2003)……..
   Granny Smith (2004)……
   Pink Lady (2004)……
   Other varieties (2004)……..

Besides the information sought on the quantity of fruit produced, growers were asked to indicate whether they expected their production to increase/decrease/stay the same in the following year. This information was expected to reveal which of the two years was the on-year, which was the off-year and whether growers expected their production to increase or decrease as a result of new plantings, replanting or removing trees.

7. For 2005, do you expect your production to?
   Increase……
   Decrease……...
   Stay the same……

8. Why do you expect your production to change? ……..

Part Two: Activity and transaction costs

This section of the questionnaire started with a question on the cost of harvesting the fruit.

1. How much did it cost you PER TONNE to harvest the fruit and to deliver it to your shed? ……..$/tonne

For those growers who intended to store the fruit, the first step in the post-harvest process is to dip the fruit in a solution of calcium to prevent bitter pit. Thus, growers were asked if (1) they dipped their fruit and (2) how much it cost to dip the fruit.

2. Did you dip the fruit (for bitter pit/scald) prior to grading/storing or selling the fruit?

   Yes
   No

3. If YES, what chemicals did you use? ……

4. What was the approximate cost per tonne to dip this fruit?
   ……. $/tonne

After dipping, the fruit is normally placed in a cool room to reduce the temperature before subsequent grading, labelling and packing. Growers were subsequently asked if (1) they graded their fruit and (2) how much it cost to grade the fruit. As not all growers have the capacity to grade and label fruit, some growers may opt to sell the fruit in bulk bins to fruit packers, market agents or exporters. In some instances, growers employ the services of fruit packers to grade, label and pack their fruit on contract, paying the fruit packer an agreed price per carton.

5. Did you grade the fruit, prior to sale or storage?

   Yes
   No

6. For the 2003 harvest, what percentage (%) of fruit did you grade prior to sale or storage? ……%

7. What was the approximate cost per tonne to grade the fruit? ……$/tonne

While consumers response to labels on fruit is mixed (Sadler 1997), it is a requirement for the supermarkets that fruit be clearly labelled. The label must identify the variety and/or provide the four digit PLU to enable the largely untrained staff at the checkout to record the appropriate price.

8. Did you label your fruit prior to sale?

   Yes
   No

9. If YES, what was the approximate cost per tonne to label the fruit? ……..$/tonne

The following question sought to identify the percentage of the grower's fruit that fell into first grade, second grade or reject. Here growers were asked to segregate between the two varieties and by the size of the fruit produced.

10. **FOR THE 2003 HARVEST**, what percentage (%) of the fruit harvested fell into each of the following grades by variety?

    Granny Smith: First……
    Second……
    Reject……
    Ungraded……...

    Pink Lady: First……
    Second……..
    Reject……
    Ungraded…….....

11. **FOR THE 2003 HARVEST**, by variety what percentage (%) of your first grade fruit was graded into each of the following sizes?

    Granny Smith: First grade
    < 64 mm; ……..…%
    65 – 79mm; ……..%
    > 80mm; ……...%

    Pink Lady: First grade
    < 64 mm; …….%
    65 – 79mm;……%
    > 80mm; …….%

12. What did you do with the rejected fruit? ……

As apples are not permitted to enter Western Australia, in order to ensure the supply of fresh fruit for the whole year, fruit is placed into either modified or controlled atmosphere storage. Hence, growers were asked if (1) they cool store the fruit prior to packing or selling, (2) what percentage of each variety that they store, (3) the approximate cost per tonne to store the fruit and (4) the losses incurred in storage through rotting and internal breakdown. Some growers did not store the fruit harvested at all.

13. Did you store the fruit in either CS or CA prior to packaging or selling the fruit?

    Yes
    No

14. What percentage (%) of fruit did you store for each variety?

    Granny Smith: CS……%; CA……; Did not store……%
    Pink Lady: CS……%; CA……; Did not store……%

15. What was the approximate cost per tonne to store this fruit under:

    Cold Storage (CS)…… $/tonne
    Controlled Atmosphere (CA) ……$/tonne

16. What losses did you incur during storage for each variety?

    Granny Smith: Losses in CS……..%; Losses in CA...……%
    Pink Lady: Losses in CS..……..%; Losses in CA....……%

In despatching fruit to customers, apples may be packed in returnable plastic crates (RPC), cardboard cartons, in bulk 500kg bins (for subsequent repacking) or in 1 or 2 kg pre packed bags. Different costs are associated with each of these alternatives and different customers prefer different methods of packaging.

17. Did you pack the fruit prior to sale?

    Yes
    No

18. What were the approximate costs per kg or per tonne to pack the fruit into these containers?

    RPC:……
    Cartons:……..
    Bulk bin:…….
    Prepacked:……..

19. For **THE 2003 HARVEST**, what percentage (%) of your fruit by grade was packed into each of the following containers by variety?

    Granny Smith;RPC:…….
    Cartons:…….
    Bulk bin:……...
    Prepacked:…….

Pink Lady; RPC:…….
Cartons:……
Bulk bin:……...
Prepacked:……

In most cases, growers were responsible for the cost of delivering fruit to their buyer or fruit packer. Where growers were responsible for the delivery of fruit to their preferred buyer, they were asked to indicate the cost of transportation per tonne to the buyer's premises. As the buyers are located at varying distances from the orchard and/or packing shed, some variation in delivery costs was expected.

20. Were you responsible for the cost of delivering the fruit to your buyer?

    Yes
    No

21. If yes, on average how much did it cost PER TONNE to deliver fruit to each of the following market intermediaries?

    Fruit Packer…….
    Grower Cooperatives…….
    Market Agent…….
    Provedores…….
    Supermarket……
    Other Retailers……
    Fruit Processors……...
    Fruit Exporters……
    Others (please specify)……..

Finally, growers were asked to indicate the prices they received from each of their preferred buyers. As the priced received will vary by variety, quality and fruit size, growers were asked to differentiate between Granny Smith and Pink Lady by grade and by size.

22. For the 2003 harvest, what were the lowest, highest and average prices you received per tonne by variety and grade from [each type of market intermediary]?

Granny Smith: First grade
< 64 mm; highest……..; average…….; lowest……
65 – 79mm; highest……; average…….; lowest…....
> 80mm; highest……; average…….; lowest…...
Second grade……

Pink Lady: First grade
< 64 mm; highest……..; average…….; lowest……
65 – 79mm; highest……; average…….; lowest…..
> 80mm; highest……; average…….; lowest…..
Second grade……

Part Three: To whom growers sold their produce and offer quality

Apple growers in Western Australia have a number of alternative customers to whom they can sell their fruit. The first question in this section sought to identify the proportion of fruit that was consigned to each potential customer.

1. **FOR THE 2003 HARVEST**, by variety, what percent of the fruit that you produced was sold to:

   Fruit packers..……%
   Grower cooperatives……....%
   Market agents……%
   Provedores……%
   Supermarkets…….%
   Other retailers……%
   Fruit processors…….%
   Fruit exporters……%
   Others (please specify)……..%

Growers were then asked to respond to an open-ended question that sought to identify the criteria growers used when deciding to whom they would sell their fruit.

The following question asked growers to respond to 12 item measures developed from the literature that were considered most influential in their choice of downstream customer. Growers were asked to respond on

a six point scale where 1 was 'not at all important' and 6 was 'very important'.

2. What criteria do you use in deciding to whom you will sell your fruit? ….……

3. Please indicate how important each of the following factors were to you when choosing between alternative market intermediaries. Please circle the most appropriate response where 1 is "not at all important" and 6 is "very important".

    a. able to take all my harvested fruit
    b. provide me with a fair price
    c. offers favourable payment terms
    d. is financially strong
    e. has a good business reputation
    f. provides technical information/advice
    g. provides market information
    h. can transport apples from my orchard
    i. is willing to meet my immediate needs
    j. is geographically close to me
    k. we have a close personal relationship
    l. is in frequent communication with me

For each of the market intermediaries potentially available to the grower, growers were then asked if they transacted with that market intermediary. If the answer was NO, growers were asked to respond to an open ended question that indicated why they did not transact with this type of market intermediary. If the answer was YES, growers were asked to rate the extent to which this preferred market intermediary was able to meet their needs on a scale where 1 was 'not at all well' and 6 was 'very well'.

4. Do you supply apples to this [market intermediary]?

    Yes
    No

5. If NO, why you did not transact with this [market intermediary]? …….

6. If YES, to what extent is your preferred [market intermediary] able to fulfil your needs? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred [market intermediary] can meet EACH of these criteria.

    a. able to take all my harvested fruit
    b. provide me with a fair price
    c. offers favourable payment terms
    d. is financially strong
    e. has a good business reputation
    f. provides technical information/advice
    g. provides market information
    h. can transport apples from my orchard
    i. is willing to meet my immediate needs
    j. is geographically close to me
    k. we have a close personal relationship
    l. is in frequent communication with me

The final question in this section asked the growers to indicate what things they believed prevented their preferred market intermediary from meeting their needs.

7. What do you think are the most important things that prevented your preferred [market intermediary] from meeting your needs?
   …….

This was followed by an open ended question that asked growers to consider what they thought were the most important factors influencing their downstream customer's choice of supplier.

8. What criteria do you think are most important in your preferred [market intermediary] decision to purchase apples from you?
   ……

Growers were then asked to respond to 19 item measures developed from the literature that were considered to be the most influential in the downstream customers choice of alternative suppliers (Batt 2003). Growers responded on a six point scale where 1 was 'not at all important' and 6 was 'very important'.

9. On a scale of 1 to 6, where 1 is "not at all important" and 6 is "very important", please indicate how important you believe EACH of the following criteria were to your preferred [market intermediary] in choosing between alternative growers?

    a. have apples of the desired variety
    b. have apples in the desired size(s)
    c. have apples that are free of pests and disease
    d. have apples that are free of physical injury
    e. have apples that are free of chemical residues
    f. provide apples with the desired maturity
    g. have apples available in the quantities required
    h. have apples that are well graded
    i. have apples that are appropriately packed
    j. have apples that are individually labelled
    k. have apples that store well
    l. have apples that are good looking
    m. have a quality assurance program
    n. ability to deliver apples when required
    o. willingness to meet their immediate needs
    p. provide apples that are competitively priced
    q. have a reputation for delivering good quality apples
    r. be able to give credit (deferred payment)
    s. offer a wide range of fresh fruits

For each of the marketing intermediaries with whom they transacted, growers were then asked to self evaluate the extent to which they believed they could meet the requirements of that market intermediary. Growers responded on a six point scale where 1 was 'not at all well' and 6 was 'very well'.

10. To what extent do you believe that you were able to fulfil your preferred **[**market intermediary's] needs for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well" please indicate how well you think you met EACH of these criteria.

    a. have apples of the desired variety
    b. have apples in the desired size(s)
    c. have apples that are free of pests and disease
    d. have apples that are free of physical injury
    e. have apples that are free of chemical residues
    f. provide apples with the desired maturity

g. have apples available in the quantities required
h. have apples that are well graded
i. have apples that are appropriately packed
j. have apples that are individually labelled
k. have apples that store well
l. have apples that are good looking
m. have a quality assurance program
n. ability to deliver apples when required
o. willingness to meet their immediate needs
p. provide apples that are competitively priced
q. have a reputation for delivering good quality apples
r. be able to give credit (deferred payment)
s. offer a wide range of fresh fruit

Growers were then asked to self evaluate the factors that prevented them from meeting the needs of their downstream customer and the various things that they could do to better satisfy their downstream customers requests.

11. What are the most important things that prevent or stop you from meeting your preferred [market intermediary] needs?
……

12. What things can you do to improve your ability to fulfil your preferred [market intermediary] needs?
……

Part Four: Relationships with each customer

In the final section, growers were asked to describe the nature of their relationship with each of their preferred market intermediaries. Growers were asked for how many years they had been transacting with this preferred [market intermediary].

1. Can you please name your most preferred [market intermediary] (optional)? .....……

2. For how many years have you been trading with this [market intermediary]? ...……..

In exploring the nature of the grower's long-tem relationship with each market intermediary, the key constructs examined were satisfaction, trust and commitment, moderated by communication, relationship specific investment, dependence, power and opportunism (Anderson and Weitz 1992; Batt 2003; Ganesan 1994; Morgan and Hunt 1994; Plank *et al.* 1999). The majority of questions were based on Batt (2003).

Each of the questions was prefaced with 'my preferred market intermediary'. For each of the downstream customers with whom the grower transacted, the 'preferred market intermediary' was replaced with my preferred fruit packer, my preferred market agent, my preferred secondary wholesaler/provedore, my preferred supermarket, my preferred retailer or my preferred fruit exporter. Growers responded on a six point scale where 1 was 'I strongly disagree' and 6 was 'I strongly agree'.

Satisfaction

Satisfaction was evaluated using seven measures adapted from previous research (Anderson *et al.* 1987; Anderson and Narus 1990; Batt 2003; Ellram 1991; Frazier 1983; Ganesan 1994; Gundlach *et al.* 1995).

1. I am satisfied in my transaction with my preferred market intermediary
2. My preferred market intermediary purchased my produce at a mutually agreed price
3. I am satisfied with the price paid from my preferred market intermediary
4. My transactions with my preferred market intermediary have resulted in increased sales revenue
5. I am satisfied with the activities performed by my preferred market intermediary
6. I feel I am adequately rewarded by my preferred market intermediary
7. My preferred market intermediary treats me fairly and equitably

Trust

Trust was evaluated using eight measures developed from the literature reported by Anderson and Narus 1990; Anderson and Weitz 1992; Bennett and Gabriel 2001; Crosby *et al.* 1990; Campbell 1997; Doney and Cannon 1997, Dwyer *et al*. 1987; Ganesan 1994; Kumar *et al.* 1995; Moorman *et al.* 1993; Morgan and Hunt 1994; Morris *et al.* 1995).

1. I trust my preferred market intermediary
2. My preferred market intermediary has a reputation for being fair
3. My preferred market intermediary is always honest
4. My preferred market intermediary often meets my expectations
5. I have confidence in my preferred market intermediary
6. My preferred market intermediary always considers my best interest
7. My preferred market intermediary always keeps their promise
8. I believe in the information provided by my preferred market intermediary

Commitment

Commitment was evaluated using three item measures (Anderson and Weitz 1992; Bennett and Gabriel 2001; Dorsch *et al.* 1998; Dwyer *et al.* 1987; Ganesan 1994; Kumar *et al.* 1995; Wilson 1995).

1. I expect to continue to interact with my preferred market intermediary in the future
2. I expect my relationship with my preferred market intermediary to continue
3. It is more cost effective for me to rely on my existing market intermediary rather than to search for an alternative market intermediary

Communication

Communication was evaluated using five items (Anderson and Narus 1990; Athaide *et al.* 1990; Batt 2003).

1. My preferred market intermediary keeps me well informed on prices in the apple market
2. My preferred market intermediary frequently asks me how we might improve the level of product service

3. My preferred market intermediary frequently asks me how we might improve the level of product quality
4. My preferred market intermediary often advises me of potential supply problems

Relationship specific investment

The sharing of risk was evaluated using two measures developed from the literature (Ford 1984).

1. My preferred market intermediary is willing to share the risk of crop failure
2. My preferred market intermediary provides financial assistance during difficult times

Dependence

Two measures were used to evaluate the extent to which the grower could choose between alternative market intermediaries (Anderson and Narus 1990; Heide and John 1988; Heide 1994).

1. I am free to choose another market intermediary at any time
2. My preferred market intermediary has the best offer relative to the alternatives (CL_{alt})

Power

Power was evaluated using two measures developed from the literature (Batt 2003; Heide and John 1988; Frazier *et al.* 1989).

1. My preferred market intermediary has all the power in our relationship
2. My preferred market intermediary controls all the information in our relationship

Opportunism

The final item was used to evaluate the extent to which the preferred market intermediary might take advantage of the grower by behaving opportunistically (Anderson and Weitz 1992; Gundlach *et al.* 1995).

1. My preferred market intermediary sometimes acts opportunistically

5.3.2 Grower's pre-testing

Prior to undertaking the main survey, pre-testing was carried out with 6 growers in the Perth Hills to verify the questionnaire. The questionnaire was pre-tested for comprehension, the time taken for completion, feedback and suggestions.

After pre-testing, all of the respondents felt that the questionnaires was too long and contained some unnecessary questions. Furthermore, they found that some questions asked were not well defined; for example, the category used for apple sizes and packaging.

The necessary amendments were made based on the feedback received. However, the size of the questionnaire remained large because of the need to examine the grower's relationship with all market intermediaries. However, it was highly unlikely that a grower would interact with all market intermediaries and hence respondents only needed to answer those sections that applied to them.

Furthermore, the pre-testing of the survey instrument provided valuable information that allowed the researcher to make alterations to the wording of some questions to assist in obtaining more valid responses from the main survey.

5.3.3 Data collection

For this study, the Western Australia Fruit Growers Association (WAFGA) provided a contact list for 278 apple and pear growers. Initially, all the growers from the list were selected and a mail questionnaire was despatched in November 2004. Given the varied location of the grower's

orchards, the distance and the number of growers in the industry, a mail survey was considered to be the most appropriate method of data collection.

For the mail survey, an accompanying cover page provided further information about the study, and the supervisors and the researcher's contact details so that the respondents could verify the authenticity of the research if required.

After nearly two months, only 10 questionnaires had been returned. With the help of the WAFGA, a reminder was placed in the monthly grower's newsletter for December, but even after the reminder, only fifteen usable questionnaires had been returned.

After some deliberation, face-to-face interviews were undertaken starting with the Perth Hills apple growing area as this was only 40 minutes from the researcher's home. Through the District Associations and Branch meetings, face-to-face interviews were then undertaken with growers in the Donnybrook and Manjimup area.

The survey in the Donnybrook area was undertaken in February, with respondents from the Manjimup area interviewed in April. For these two areas, the branch representative of WAFGA was contacted, who then provided a contact list of grower's that they thought would be most able to assist with the surveys. From the names provided, the researcher then contacted the growers personally to establish a suitable time for the interview. For those growers who were willing to participate, the interviews were undertaken either in the grower's homes or on their orchards.

At the commencement of the interview, respondents were advised that their participation was entirely voluntary and that all their responses would only be used for the intended research purposes. On average, the interviews took up to two hours to complete. Recognising that respondent fatigue was inevitable during the survey, a number of issues were often discussed informally.

5.4 Buyers (Customers)

A buyer's questionnaire was developed for the fruit packers, market agents, fruit exporters, secondary wholesalers/provedores, retail cooperatives, supermarkets and retailers to evaluate their transactions with their preferred upstream suppliers. To the maximum extent possible, the market intermediaries' questionnaire paralleled that used for the growers with some changes made to suit the various respondents.

5.4.1 Buyer's questionnaire design

The buyer's questionnaires were divided into four different parts:

Part One: Nature of business

The first section of the questionnaire required respondents to provide general information about the nature of their business.

1. Location of store/premises: ……..
2. Number of year(s) respondent had been buying/selling apples? ……
3. For the retailers, it was necessary to determine the types of store that they currently operated.
    a. Supermarket (chain store)

b. Independently owned supermarket
c. Greengrocer
d. Other (eg: Fremantle/Subiaco market)

Buyers were asked to the maximum extent possible to indicate the quantity of apples that they purchased/handled during both 2003 and 2004.

4. For the 2003 & 2004 harvest, what quantity of apples did you purchase?

   Granny Smith (2003)……
   Pink Lady (2003)……
   Other varieties (2003)……...

   Granny Smith (2004)……
   Pink Lady (2004)……
   Other varieties (2004)……...

Market intermediaries were then asked to indicate whether they expected the quantity of apples handled to increase or decrease in the following year and to indicate the reasons for the apparent difference.

5. Why do you expect your sales to change?……..

Part Two: Activity and transaction costs

Part Two asked the buyers to indicate the quantity and grade of the fruit purchased from each upstream supplier and the various costs incurred by the market intermediary to regrade, repack and to store the fruit where appropriate.

1. **FOR 2003,** what percentage (%) of the fruit purchased from each supplier fell into each of the following grades by variety?

   Granny Smith: First…….
   Second…….
   Ungraded……

Pink Lady: First……
Second……
Ungraded……...

2. Did you grade/regrade the fruit before resale?

   Yes
   No

3. **If YES,** how much did it cost to grade/regrade the apples for each variety?

   Granny Smith:……$/tonne
   Pink Lady:……..$/tonne

4. Do you pack/repack the apples prior to re-selling the fruit?

   Yes
   No

Since different types of packaging were needed by certain market intermediaries, the cost incurred for each type of packaging will be different.

5. If YES, what were the approximate costs to pack/repack the fruit into these containers?

   RPC:……..
   Cartons:…….
   Prepacks:…….

6. Did you store the apples you had purchased prior to re-packing or re-selling the fruit?

   Yes
   No

7. If YES, for how many days did you store the apples?.....days

8. How much did it cost to store the apples for this period of time?
   ……$/tonne

9. What percentage of losses did you experience in storage for EACH variety?

   Granny Smith:……%
   Pink Lady:……..%

Buyers were also asked about the cost of transporting apples from their supplier in those instances where they were responsible for the cost of receiving the fruit from their supplier.

10. Were you responsible for the costs of receiving fruit from your suppliers?

    Yes
    No

11. If YES, on average how much did it cost PER TONNE to deliver the fruit from each of the following suppliers?

    Growers……
    Fruit Packers……
    Grower Cooperatives…….
    Market Agents…….

Finally, buyers were asked to indicate the cost at which they purchased apples from their preferred suppliers. The price was asked for both first grade and second grade Granny Smith and Pink Lady. For first grade apples, buyers were subsequently asked to provide the price by size.

12. For the 2003 harvest, what were the lowest, highest and average price paid per tonne by variety and grade by buyer?

    Granny Smith: First grade
    < 64 mm; highest…….; average…….; lowest……..
    65 – 79mm; highest…….; average…….; lowest……..
    > 80mm; highest…….; average……..; lowest……..
    Second grade……

    Pink Lady: First grade
    < 64 mm; highest…….; average…….; lowest……..
    65 – 79mm; highest…….; average…….; lowest…….
    > 80mm; highest…….; average…….; lowest……..
    Second grade……...

Part Three: From whom buyers purchased apples from and offer quality

Part Three sought to identify the quantity of apples purchased from each of the preferred upstream suppliers.

1. **FOR 2003**, what quantity (in tonnes) of fruit did you purchase from each of the following suppliers?

   Growers…….
   Fruit packers…….
   Grower cooperatives……....
   Market agents……

This was followed by an open-ended question that sought to identify the criteria buyers used in choosing from whom they would purchase apples.

2. What criteria do you use in deciding from whom you will purchase apples?.....

This was followed by 19 statements drawn from the literature that sought to identify the relative importance of the criteria buyers used in evaluating potential suppliers. Market intermediaries were asked to respond on a six point scale where 1 was 'not at all important' and 6 was 'very important'.

3. On a scale of 1 to 6, where 1 is "not at all important" and 6 is "very important" please indicate how important EACH of these criteria were in choosing your preferred fruit supplier.

   a. have apples of the desired variety
   b. have apples in the desired size(s)
   c. have apples that are free of pests and disease
   d. have apples that are free of physical injury
   e. have apples that are free of chemical residues
   f. provide apples with the desired maturity
   g. have apples available in the quantities required
   h. have apples that are well graded
   i. have apples that are appropriately packed
   j. have apples that are individually labelled
   k. have apples that store well
   l. have apples that are good looking
   m. have a quality assurance program

n. ability to deliver apples when required
o. willingness to meet their immediate needs
p. provide apples that are competitively priced
q. have a reputation for delivering good quality apples
r. be able to give credit (deferred payment)
s. offer a wide range of fresh fruit

For each of the potential suppliers (growers, fruit packers, cooperatives and market agents), buyers were then asked to indicate how well each supplier meet these some criteria on a six point scale where 1 was 'not at all well' and 6 was 'very well'.

4. To what extent do you believe that your preferred [type of supplier] was able to fulfil your needs for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well" please indicate how well you think your preferred [type of supplier] met EACH of these criteria.

    a. have apples of the desired variety
    b. have apples in the desired size(s)
    c. have apples that are free of pests and disease
    d. have apples that are free of physical injury
    e. have apples that are free of chemical residues
    f. provide apples with the desired maturity
    g. have apples available in the quantities required
    h. have apples that are well graded
    i. have apples that are appropriately packed
    j. have apples that are individually labelled
    k. have apples that store well
    l. have apples that are good looking
    m. have a quality assurance program
    n. ability to deliver apples when required
    o. willingness to meet their immediate needs
    p. provide apples that are competitively priced
    q. have a reputation for delivering good quality apples
    r. be able to give credit (deferred payment)
    s. offer a wide range of fresh fruit

Buyers were then asked to identify the most important things that prevented each type of supplier from meeting their needs and the various things they could do to improve the quality of the apples they supplied.

5. What are the most important things that prevent your preferred [type of supplier] from meeting your needs?

   ……

6. What things can your preferred [type of supplier] do to improve the quality of the apples they supply?

   ……

Finally buyers were asked to identify what they believed their upstream suppliers required from downstream market intermediaries. Buyers were asked to respond to 12 statements on a six point scale where 1 was 'not at all well' and 6 was 'very well' to indicate the extent to which they believed they could meet suppliers expectations.

7. What criteria do you think are most important in your preferred [type of supplier] decision to sell apples to you?

   ……

8. To what extent do you believe that you are able to fulfil your preferred [type of supplier] needs? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

   a. able to take all their harvested fruit
   b. provide them with a fair price
   c. offers favourable payment terms
   d. is financially strong
   e. has a good business reputation
   f. provides technical information/advice
   g. provides market information
   h. can transport apples from their orchard/premises
   i. is willing to meet their immediate needs
   j. is geographically close to them
   k. we have a close personal relationship
   l. is in frequent communication with them

The final question asked the buyers to indicate what things they believed prevented or stopped them from meeting each upstream suppliers needs.

9. What are the most important things that prevent or stop you from meeting your preferred [type of supplier] needs?

   ……

10. What things do you believe you can do to improve your ability to fulfil your preferred [type of supplier] needs?

    ……

Part Four: Relationships with each upstream supplier

Using the same 31 relationship variables as in the grower's questionnaire, each of the market intermediaries were asked to evaluate their relationship with each of their preferred upstream suppliers on a six point scale where 1 was 'I strongly disagree' and 6 was 'I strongly agree'.

5.4.2 Buyer's pre-testing

Prior to undertaking the main survey, pre-testing was carried out with 3 buyers (two green grocers and one fresh market retailer) to verify the questionnaire. Pre-testing did not include all supply chain participants as the nature of the questionnaire was similar for all participants. An accompanying cover page was available which provided details of the supervisor's and the researcher's contact number so that the respondents could verify the authenticity of the research.

After pre-testing, all of the respondents felt that the questionnaire was too long and contained some unnecessary questions. The necessary amendments were made based on the feedback received. However, little

could be done to reduce the size of the questionnaire because the study sought to examine each of the alternative trading relationships for each buyer. Again, respondents only needed to answer those questions that related to each of the various upstream suppliers from whom they purchased apples.

5.4.3 Selection of buyers for respondents

For this study, the business-to-business buyers involved within the WA apple industry were identified as (1) fruit packers; (2) grower cooperatives; (3) market agents; (4) secondary wholesalers/provedores; (5) fruit exporters; (6) fruit processors; and (7) retailers.

Fruit Packer

For the fruit packers, face-to-face interviews were conducted on the respondent's premises after a phone call asking for their willingness to participate. This survey was undertaken parallel with the survey for the growers, due to the distance between survey areas. Fruit packers were identified through asking other growers. Some of the larger growers were also fruit packers, providing their facilities to the small growers on a fee for service basis. However, for those who were identified as grower-packers, they were interviewed only once as either a fruit packer or as a grower.

Grower Cooperatives

At the time the study was undertaken, the only grower cooperative identified in Western Australia was experiencing major internal problems and was in financial crisis. Consequently, no interviews with any grower cooperatives were undertaken for the study.

Market Agent

Based on the data available from the Perth Metropolitan Market website, there were 24 market agents operating in the Perth Metropolitan Market. Through information obtained from contacting their representatives, there were 12 market agents handling apples. Once the relevant market agents had been identified, phone calls asking for their readiness to participate were carried out. Face-to-face interviews were then conducted with those market agents who provided their consent at the respondent's premises in Canning Vale.

Secondary wholesaler/provedores

Secondary wholesalers who purchase fruit for and on behalf of other retail or institutional customers were identified through the Perth Metropolitan Market website, while a contact list of provedores were obtained from the Perth Yellow Pages (2004). Secondary wholesalers and provedores were included in one group as both of them purchased fruit from the market agents in the Perth Metropolitan Market and there were only a small number of respondents in this group.

Fruit Processors

The list of fruit processors that currently operate in Western Australia was also taken from the Perth Yellow Pages (2004). From this directory, only four fruit processors were identified. After a phone call asking for their readiness to participate only one fruit processor gave their consent to be interviewed. Due to the lack of response from other fruit processors and with regard to the responses received from other participants that sold apples to fruit processors, fruit processors were also excluded from the data analysis.

Fruit processors were identified as only handling reject or second grade fruit for processing into juice or fruit pulps. It was evident that other participants seldom cared about their transactions with fruit processors, as the price received for their produce was only marginally better than the cost to dump the fruit. With the quantity of imported apple juice concentrate from China increasing markedly, the price paid for juicing apples in Western Australia had significantly declined.

Retailers

For the retailers, a similar technique was applied. From the Perth Metropolitan Yellow Pages (2004), a random selection of retailers was contacted. For those retailers who agreed to participate, face-to-face interviews were conducted, usually on the buyer's premises.

For the independent supermarkets, specialty retailers (fresh markets), green grocers and weekend markets, interviews were only undertaken with those buyers who purchased direct from either growers or from market agents at the Perth Metropolitan Market. While an attempt was made to contact a representative from the three major retail chains in Western Australia, only two supermarkets were willing to participate in this study. For these two major retail chains, interviews were undertaken with the person that was responsible for purchasing apples for that supermarket chain.

At the time the survey was conducted, there was only one retail cooperative operating in Western Australia. Foodland Associated Limited (FAL) is a grocery wholesaler supplying independent supermarket operators throughout Western Australia, and the Group's own supermarkets. FAL also operated three cash and carry warehouses and

was a supplier to the food service industries through its Foodlink Food Service business.

FAL coordinated the merchandising activities of several supermarket franchise groups including Action, Dewsons, Supa Valu, Foodland and Four Square. They were also the major supplier to most Western Australian independent supermarket operators. After a phone call asking for their readiness to participate, a face-to-face interview was carried out with the individual responsible for buying apples for FAL.

Fruit Exporters

The number of fruit exporters in Western Australia is currently declining due to competition from China in the main export markets: Singapore and Malaysia. For the fruit exporters, a list was obtained from the Perth Yellow Pages (2004) directory. One of the exporters who participated in the study also provided a list. After a phone call asking for their willingness to participate, face-to-face interviews were then conducted with those fruit exporters who provided their consent at their premises.

5.4.4 Data collection

The actual data collection process was carried out from November 2004 until May 2005. At the commencement of the interview, respondents were advised that their participation was entirely voluntary and that all their responses would be used only for the intended research purposes. On average, the interviews took up to two hours to complete. Recognising that respondent fatigue was inevitable during the survey, much informal discussion took place about any number of issues.

5.5 Data Analysis

After a visual examination, responses from the completed questionnaires were entered into the Statistical Package for Social Sciences (SPSS). Open-ended responses were first encoded before entering into SPSS. To check for any inaccuracies in the data entry process and to test for the normality of the data, the frequency distributions for each question were run. After correcting any data entry errors, the frequency distributions provided the major data output for the tables used to describe the respondents. Both univariate and multivariate data analysis was used in this study.

5.5.1 Univariate data analysis

Due to the nature of this study, univariate data analysis techniques were primarily used. For univariate data analysis, measures such as the central location, frequency distribution and variability were calculated for each question contingent upon the nature of the question and the scales employed (nominal, ordinal, interval or ratio). These types of statistical analyses were most useful in describing the data, identifying the location of the central point and for defining how various aspects of the data were related.

Descriptive analysis

In this study, descriptive statistics were widely used to describe the socio-demographic background of the growers and other market intermediaries; to analyse general information on apple production; the activities and costs related to apple marketing; as well as the quantity of apples supplied to each of the preferred buyers.

Paired samples t-test

The paired sample t-test was applied to determine differences in the nature of the offer quality between suppliers and their respective downstream customers. The paired sample t-test was used to evaluate these transactions to purposefully exclude those respondents who did not transact with the target group of market intermediaries.

Independent samples t-test

To examine any significant differences in the relationships between participants in the Western Australian apple industry, the independent sample t-test was used for the importance of the buyer or supplier selection criteria and the offer quality between what a buyer and seller ideally wanted and how well each buyer/seller met these criteria. The t-test was also used to explore the nature of the relationships between each group of the respondents and their preferred trading partners.

One-way analysis of variance (ANOVA)

One-way ANOVA was used to explore differences between two or more groups of respondents. For this study, the group means were compared for each of the measures utilised to explore the respondent's relationship with their preferred trading partners.

Where a significant difference was detected, a number of post hoc procedures were used to identify where these significant differences occurred, using both Scheffe's test and Tukey's HSD.

5.5.2 Multivariate data analysis

In this study, factor analysis (or principal component analysis) and cluster analysis was used.

Factor analysis (Principal component analysis)

Factor analysis is a general scientific method for analysing data. The main use of principal component analysis is to identify the correlations between the criteria respondents used in their decision to purchase (Hair *et al.* 2006).

Factor analysis was used to reduce the number of variables to a more manageable level so that the basic structure underlying the set of variables could be found. This type of procedure groups the variables into independent factors where each factor represents a scale measure of some underlying dimension (Hair *et al.* 2006).

Factor analysis usually proceeds in four steps; (1) the correlation matrix for all variables is computed and variables that do not appear to be related to the other variables can be identified from the matrix and excluded, (2) a set of initial components is extracted from the correlation matrix, (3) the initial components are rotated to find a final solution and make them more interpretable, and (4) the scores for each factor are computed and then used in a variety of other analysis (Hair *et al.* 2006).

Cluster analysis

The term *cluster analysis*, first used by Tryon (1939), encompasses a number of different algorithms and methods for grouping objects of similar kinds into respective categories (Statsoft 2004). Generally, researchers in many areas have a problem in how to arrange observed

data into meaningful structures, that is, to develop groups. Cluster analysis seeks to group objects or individuals into groups so that individuals in the same group (cluster) are more similar with the other members of the group than they are to other individuals in another group or cluster (Hair *et al.* 2006). In other words, cluster analysis is an exploratory data analysis tool which is used to place different individuals into groups where the degree of association between groups is maximised.

In this study, cluster analysis was applied to determine if growers could be effectively segmented, based on the growers selection criteria or benefits sought by growers from their preferred buyers.

Cluster analysis began with the use of variables on the location of the growers, size of farm, number of years growing apples, total area of apples planted and total apple production for 2003 and 2004. After a few attempts to get a more stable transformation, the final clustering variables included the total apple area and the total apple production for 2003 and 2004. Then the solution was saved and utilised to identify any significant differences in response between the various clusters. Two groups of growers were identified including large scale growers and small scale growers.

5.6 Chapter summary and implications

The survey sought to identify and define those respondents who are involved in the WA apple supply chain. Besides that, it also sought information regarding the transaction costs faced by the actors, differences in the offer quality and the nature of the long-term buyer-seller relationships between growers and all market intermediaries in the WA apple industry. With the level of detail sought from respondents, the

interviews took two hours on average. No doubt this contributed to the non-response error due to interview fatigue. To overcome this problem, time was spent informally discussing other related issues with the respondents.

In order to access the respondents, probability sampling was applied through the use of secondary information obtained from different sources including the WAFGA for the list of growers, the Perth Metropolitan Market for the list of market agents and the Perth Yellow Pages for the list of other market intermediaries. However, there will be some ambiguity here due to the fact that some market intermediaries may not list their business in the Yellow Pages.

Besides that, the use of sophisticated multivariate techniques in this study is limited by the small sample size. The quality of the data itself had some limitations as some information could not be obtained from the respondents like the prices for each apple grade and the seasonality of price by month. With these limitations, the results for apples prices could only be analysed by using the average prices for each grade and variety. Furthermore, some errors of omission may arise where some variables have not been included.

The other problem to arise during the data collection process was the language problem, specifically the Australian English accent faced by the researcher. Some of the respondents indicated that they could not understand what the researcher was trying to say which resulted in their refusal to participate.

CHAPTER 6

DESCRIPTION OF THE STUDY RESPONDENTS

6.1 Chapter outline

The previous six chapters have provided the background to this thesis. The research problem has been recognised, the literature reviewed, a conceptual model proposed and the methodology presented for data collection and analysis. In this chapter, a description of the survey respondents who participated in this study is provided. The respondents who participated in this study included growers, fruit packers, market agents, secondary wholesalers/provedores, fruit exporters, supermarkets and retailers.

6.2 Grower's profile

From the 278 apple and pear growers registered with the Fruit Growers Association of Western Australia (WAFGA), a total of 50 apple growers were interviewed. Initially, a questionnaire was despatched by mail to all 278 growers. However, after six weeks, only 12 responses had been received. Two were returned because the growers only cultivated pears.

Through the WAFGA, the branch chairmen were contacted and through them, growers who were considered the most likely to participate in face-to-face interviews were identified. Face-to-face interviews were carried out on the respondent's properties after receiving their consent to participate. Respondents were gathered from the main apple growing areas in Western Australia (WA) (Table 6.1).

Table 6.1: Respondents and area

Growing area	Frequency	Percentage
Donnybrook	20	40.0
Perth Hills	14	28.0
Manjimup	14	28.0
Dwellingup	2	4.0
Total	**50**	**100**

Of the total number of respondents, the majority of growers interviewed were from the Donnybrook (40%), Manjimup (28%) and the Perth Hills (28%) respectively. The number of respondents from Dwellingup was based only on the result of the mail survey that was carried out earlier. Face-to-face interviews were only undertaken in the Perth Hills, Donnybrook and Manjimup because of time and cost constraints.

Despite the fact that the number of respondents was relatively small, the total area of apple production represented by the respondents was 629 hectares. The area of apples cultivated ranged from as little as 1 hectare to a maximum of 70 hectares, with a mean of 12.6 hectares (Table 6.2).

Table 6.2: Respondents farm areas and years of apple growing (hectares)

Farm size and years	Min	Max	Mean	Total
Total farm area (ha)	14	500	99.9	4993
Total fruit area (ha)	1	100	20.4	1022
Total apple area (ha)	1	70	12.6	629
Years of growing	10	78	37.9	1893

Most of the growers grew other fruit trees or had some farm animals on their property. As a result, the total area of land farmed by the respondents ranged from 14 hectares to 500 hectares.

Most of the growers that participated in this study stated that they had inherited the business. In most instances, the business was a family

business. Respondents had been growing apples for 10 years to 78 years, with a mean of 37.9 years.

The majority of growers (66%) in this study were small growers, cultivating between 1 to 10 hectares of apples (Table 6.3). Only 12 percent of the growers managed an apple orchard with an area of more than 20 hectares.

Table 6.3: Size for the apple farm

Area (hectares)	Frequency	Percent
1 – 10 ha (small)	33	66.0
11 – 20 ha (medium)	11	22.0
More than 20 ha (large)	6	12.0
Total	**50**	**100.0**

For this study, only two apple varieties (Granny Smith and Pink Lady) were used for the purpose of data collection. These two varieties were chosen as they had the highest level of production compared to other varieties in WA. Furthermore, these two varieties were the most popular with consumers (Batt 2004).

In 2003, the total quantity of apples produced by respondents was 19,438 tonnes (Table 6.4). In 2004, the total quantity of apples produced by respondents decreased to 17,167 tonnes. However, when compared to the total quantity of apples produced in WA in 2003 (38,900 tonnes) and 2004 (34,000 tonnes), the sample represented 50 percent of the apples produced in WA for both years.

The quantity of apples produced by the growers ranged from as little as 1 tonne to a maximum of 800 tonnes, with a mean of 165 tonnes for Granny Smith and 158 tonnes for Pink Lady in 2003. In 2004, probably as a result

of biennial bearing, the means declined to 132 tonnes and 140 tonnes respectively.

Table 6.4: Total apple production by growers in 2003/04 (in tonnes)

Apple varieties	N	Min	Max	Mean	Total
Granny Smith 03	38	5	800	165	6252
Pink Lady 03	46	1	800	158	7264
Others 03	42	1	671	141	5922
Total 2003					**19,438**
Granny Smith 04	40	6	528	132	5263
Pink Lady 04	47	1	700	140	6568
Others 04	43	1	617	124	5336
Total 2004					**17,167**

As apples are a seasonal crop, growers were asked to forecast their crops for the next season. Most growers (44%) indicated that they expected their production to increase for the next season (2005). Some 30 percent of growers indicated that their production for the next season would stay the same with 26 percent expecting their production to decrease (Table 6.5).

Table 6.5: Production expectation for 2005

Expectation	Frequency	Percent
Increase	22	44.0
Decrease	13	26.0
Stay the same	15	30.0
Total	**50**	**100.0**

In identifying the factors which were most likely to influence changes in production, the most frequently cited response was a light year or an off-year in the previous year (2004). This reflected the biennial bearing nature of apple trees. However, the three other most frequently cited reasons included young trees coming into production (21%), seasonal changes (14%) and the desire by some growers (11%) to remove trees (Table 6.6).

Table 6.6: Factors in the production changes

Factors	Frequency	Percent
Light year before/ Off year	13	29.6
Young trees into production	9	20.5
Seasonal changes	6	13.6
Pulling out trees	5	11.4
Mature trees	2	4.5
Planted more stone fruit	2	4.5
Poor fruit set	2	4.5
Better tree management	2	4.5
Death of the owner	1	2.3
Heavier crop this year	1	2.3
No new trees	1	2.3
Total	**44**	**100.0**

Given that the economies of scale are expected to have a significant impact on the growers ability to meet the needs of their downstream customers, cluster analysis was performed using the total area of apples cultivated, the quantity of apples produced in 2003 and the quantity of apples produced in 2004. Based on these three variables, two distinct clusters emerged (Table 6.7).

Table 6.7: Final cluster centres

Variables	Mean		
	All	Clusters	
		1	2
Area cropped in apples	13	39	9
Total quantity of apples produced in 2003	468	1,748	289
Total quantity of apples produced in 2004	395	1,449	248
Cluster membership	**49**	**6**	**43**

Cluster One, which was comprised of the larger growers, cultivated an average of 39 hectares and in 2003 and 2004, produced an average of 1598 tonnes of apples. The 43 growers in Cluster Two cultivated an average of only 9 hectares and produced an average of 268 tonnes. The growers in Cluster Two were classified as small scale growers.

6.3 Fruit packer's profile

For this study, only eight fruit packers were willing to participate. However, two of them were the major fruit packers that operated in Western Australia and who dominated the local market (pers com Peter Churack).

In 2003, the total quantity of apples handled by fruit packers was 5,608 tonnes. Granny Smith accounted for 29 percent of the purchased quantity and Pink Lady accounted for 26 percent. In 2004, the total quantity of apples purchased by grower packers decreased by 5 percent, commensurate with the reduced harvest (Table 6.8).

Table 6.8: Total quantity of apple purchased in 2003/04 (in tonnes)

Apple varieties	2003	2004
Granny Smith	1634	1500
Pink Lady	1474	1363
Other varieties	2200	2150
Total	**5608**	**5013**

For the fruit packers, 38 percent of them expected their sales to increase for the next year, while 38 percent expected their sales to decrease (Table 6.9).

Table 6.9: Sales expectation for 2005

Expectation	Frequency	Percent
Increase	3	37.5
Decrease	3	37.5
Stay the same	2	25.0
Total	**8**	**100**

The most frequently cited responses from fruit packers for the change in sales was the light crop in the year before (46%) and seasonal changes (46%) (Table 6.10).

Table 6.10: Factors in the changes of sales

Factors	Frequency	Percent
Light year before	6	46.2
Seasonal changes	6	46.2
Deal with new supplier	1	7.6
Total	**13**	**100.0**

All fruit packers were sourcing their produce directly from growers. Some of the fruit packers were actually growers who packed for and on behalf of other small growers. For this study, if the respondents were both grower and fruit packer at the same time, they were only interviewed once as either a grower or a fruit packer. The grouping as either a fruit packer or a grower was made during the interview, based on the contribution made to total business turnover.

6.4 Market agent's profile

Currently, there are 24 market agents operating from the Perth Metropolitan Market. Of the total number of market agents operating, only 12 of them handled apples, and only six were willing to participate in this study.

For the quantity of apples purchased/sold on behalf of the growers or fruit packers, only five market agents were willing to provide the data needed. The total quantity of apples handled by the five market agents interviewed in 2003 and 2004 was 17,219 tonnes and 23,050 tonnes respectively (Table 6.11).

Table 6.11: Total quantity of apple purchased/sold on behalf in 2003/04 (in tonnes)

Apple varieties	2003	2004
Granny Smith	3751	4743
Pink Lady	5135	6347
Other varieties	8333	11,960
Total	**17,219**	**23,050**

When asked about their sales expectations for 2005, four of them stated that they expected their sales to stay the same with only one expecting their sales to increase and one expected their sales to decrease. The reason for the increase was due to the seasonal nature of supply, while the reason for the decrease was less demand from the eastern states.

Most of the market agents received their apples direct from growers. Only one also received fruit from fruit packers. However, it was also abundantly clear that there was an element of trade occurring between the market agents themselves, with all six agents indicating that they often sourced fruit from other market agents (Table 6.12).

Table 6.12: Total quantity of apple purchased/sold on behalf from different suppliers in 2003 by market agents (in tonnes)

Suppliers	N	Granny Smith	N	Pink Lady
Growers	6	3248	6	4665
Fruit packers	1	354	1	385
Grower cooperatives	-	-	-	-
Others market agents	6	149	6	85
TOTAL	**13**	**3751**	**13**	**5135**

The numbers of years that market agents had been buying and selling apples varied from 6 to 30 years with the mean of 18.17 years.

6.5 Secondary wholesaler/provedores profile

For this study, eight secondary wholesalers and provedores participated. Secondary wholesalers and provedores were grouped together, for it was found that they procured their fruit from the same sources.

The total quantity of apples purchased by secondary wholesalers and provedores was 2,180 tonnes in 2003 and 2,325 tonnes in 2004 (Table 6.13).

Table 6.13: Total quantity of apple purchased in 2003/04 (in tonnes)

Apple varieties	**2003**	**2004**
Granny Smith	675	715
Pink Lady	495	465
Other varieties	1,010	1,145
Total	**2,180**	**2, 325**

In general, the secondary wholesalers and provedores purchased larger volumes of Granny Smith. Granny Smith is a multi purpose apple that can also be used for cooking. Secondary wholesalers and provedores often supply fruit to the food service market which includes hospitals, hotels and restaurants.

When asked about their sales expectation for the following year, most of the secondary wholesalers/provedores expected their sales to increase (38%), while a similar number expected their sales to stay about the same (38%). Some 25 percent of the secondary wholesalers/provedores expected their sales to decrease (Table 6.14).

Table 6 .14: Sales expectation for 2005

Expectation	Frequency	Percent
Increase	3	37.5
Decrease	2	25.0
Stay the same	3	37.5
Total	**8**	**100**

Seasonal factors (50%) were identified by secondary wholesalers and provedores as the most important factor influencing sales. The least cited factors that contributed to the changes were an increase in the fruit quality (8%) and good price received (8%) from their buyers and suppliers (Table 6.15).

Table 6.15: Factors in the changes of sales

Factors	Frequency	Percent
Right season	6	50.0
Better storing technology	2	16.7
Increase customers	2	16.7
Increase quality	1	8.3
Good price	1	8.3
Total	**12**	**100.0**

All secondary wholesalers/provedores indicated that they procured their fruit from market agents at the Perth Metropolitan Market. As most of them supplied apples to service industries like hotels, restaurants and government departments, the range of products offered in the central market easily enabled them to fulfil their customer's requirements.

The numbers of years the secondary wholesalers/provedores had been in business ranged between five to twenty two years.

6.6 Retailer's profile

A total of 25 retailers were interviewed (Table 6.16). Three types of retail stores were identified prior to undertaking the survey: the independently owned supermarkets (28%); greengrocers (40%); and the weekend markets (32%).

Table 6.16: Types of retail stores

Types of store	Frequency	Percent
Independent supermarket	7	28.0
Green-grocer	10	40.0
Other-wet market	8	32.0
Total	**25**	**100.0**

All respondents were contacted by telephone to ascertain their willingness to participate. Interviews were then conducted on their premises. The majority of the retailers interviewed (60%) had been operating for more than 10 years (Table 6.17).

Table 6.17: Years been buying/selling apples

Years operated	Frequency	Percentage
Below 10 years	10	40.0
10 – 20 years	12	48.0
More than 20 years	3	12.0
Total	**25**	**100.0**

Only 22 respondents were willing to provide information on the quantity of apples purchased in both 2003 and 2004. In 2003, a total of 116 tonnes of Granny Smith and 122 tonnes of Pink Lady were purchased (Table 6.18).

Table 6.18: Quantity of apples purchased for 2003 and 2004 (tonnes)

Variety	2003	2004
Granny Smith	116	110
Pink Lady	122	116
Other Varieties	203	201
TOTAL	**441**	**427**

The quantity of apples purchased by the retailers interviewed for both Granny Smith and Pink Lady, accounted for only 3 percent of the total of 27,469 tonnes of apples consumed in WA in 2003 (ABS 2004). As most of the retailers are small green grocers, the quantity of fruit purchased is relatively small. However, the small stores buy more often.

Despite the increasing concentration in the retail sector, the majority of retailers (72%) expected their sales to stay the same in 2005. However, 24 percent expected their sales to increase and only 4 percent expected sales to decrease. Among the factors cited by retailers were the seasonal changes (44%) and an off-crop in the year before (22%) (Table 6.19).

Table 6.19: Factors in the changes of sales

Factors	Frequency	Percent
Seasonal changes	4	44.4
Off crop year before	2	22.2
Lite year before	1	11.1
More customers	1	11.1
Better quality produce	1	11.1
Total	**9**	**100.0**

In purchasing their produce, most retailers purchased fruit from market agents followed by other sources like secondary wholesalers and retail cooperatives (FAL). The proportion of fruit purchased direct from growers and fruit packers was notably less. Due to the small quantities and the diverse range of fresh produce required, most small independent retailers

continue to use Perth Metropolitan Market as their main source of supply (Hobley 2001).

6.7 Supermarket's profile

In Western Australia, retailers are recognised as the last actor in the chain before fruit reaches the consumers. However, in this study only two supermarket chains were willing to participate and agreed to be interviewed. The person that was responsible for purchasing fresh fruit was contacted for the interview.

At the time the study was undertaken, only three supermarket chains were operating in Western Australia. Anecdotal evidence suggests that supermarkets account for no less than 55 percent of the fresh fruit and vegetables purchased in Western Australia (Batt 2006). Due to the confidentiality of sales information, only one of the supermarkets was prepared to reveal the quantity of fruit purchased.

Despite there being only two respondents, a preliminary analysis of the data revealed that supermarket buyers often behaved in a very different manner to other fruit retailers. As a result, the supermarket responses were analysed separately. Both supermarkets indicated that they purchased apples from growers and market agents. However, only one of them also purchased apples from fruit packers.

6.8 Fruit exporter's profile

Exporters play an important role in marketing locally grown fruit to other countries. More recently, due to increasing competition in export markets, the number of fruit exporters in Western Australia has declined. As a

result, a number of the listings that appeared in the Perth Yellow Pages for fruit exporters were no longer in service. Only four apple exporters were willing to participate in this study. All of their businesses were based within the Perth metropolitan area.

For 2003, the total volume of apples purchased by the exporters interviewed was 1120 tonnes of Granny Smith, 590 tonnes of Pink Lady and 770 tonnes of other varieties. Although the numbers of respondents were relatively small, the amount of apples handled by all respondents accounted for 44 percent of the apples exported from WA in 2003. All the apples secured by the exporters were gathered from growers and fruit packers. While three exporters were getting their supplies from both growers and apple packers, one of them was dealing only with growers.

For Granny Smith, apples were exported from March to June, and Pink Lady from April to June. After receiving the produce from suppliers, fruit exporters often regraded the fruit. Furthermore, most exporters were not responsible for the cost of receiving fruit from their suppliers; the fruit exporters were normally paid a commission to facilitate the transaction.

6.9 Segmenting the marketing channels

Due to the complexity of the apple supply chain, it was considered important to identify which growers transacted with which market intermediaries (Table 6.20).

Table 6.20: Description of grower's relationship with their preferred buyers based on cluster

Group	FP	MA	WS	S	R	FE
Cluster 1 = 6	-	5	-	3	1	1
Cluster 2 = 43	14	17	2	-	10	15
N	**14**	**22**	**2**	**3**	**11**	**16**

Where; G is grower, FP is fruit packer, MA is market agent, R is retailer and FE is fruit exporter

Apparently, the large scale growers from Cluster 1 do not have any relationship with fruit packers as most of the larger growers would normally have their own packing facilities. Furthermore, three of the larger growers supplied their apples direct to supermarkets due to their ability to handle large volumes and maintain the continuity of supply desired.

It was no surprise to find that 14 (33%) of the small scale growers from Cluster 2 were selling their apples direct to fruit packers, with 17 (40%) of them selling to market agents. However, 15 (35%) of the small growers were selling their apples to fruit exporters. Fruit exporters often collect small volumes of apples from a number of growers and consolidate the shipment. For those growers that were selling direct to retailers, most of the retailers were located near to their orchard and had been transacting with that retailer for many years.

6.10 Chapter summary and implications

In WA, the reduction in export sales due to price competition from China has placed more fruit on the domestic market. Industry has responded to this situation by running a promotional campaign through the electronic media in an attempt to increase the consumption of fresh fruit among consumers.

By using cluster analysis, apple growers in Western Australia can be divided into larger and small-scale growers by using the total area of apples cultivated and the volume of apples produced in 2003 and 2004 respectively. Both large-scale and small-scale growers have market intermediaries that they use to sell their produce according to their capability. The results show that large-scale growers can supply fruit directly to supermarkets for they have the ability to maintain the continuity of supply required.

Given the somewhat arbitrary distinction between growers and fruit packers, further analysis was undertaken to see if there was any relationship between larger scale growers and fruit packers. After testing the two groups using variability analysis, it is apparently that they can not be grouped together as fruit packers and the large-scale growers are distinctly different groups.

It is also abundantly clear that while the survey has captured at least 50 percent of the apple industry in WA, the small number of respondents will preclude the use of many statistical programs. As a result, the outcomes of the study will be analysed more qualitatively.

CHAPTER 7

ACTIVITY AND TRANSACTION COSTS IN THE FRESH PRODUCE INDUSTRY

7.1 Chapter Outline

In this chapter, the activity costs and the price margins for apples bought and sold through the chain is determined. The price difference between what the growers received from preferred market intermediaries and the cost incurred by the growers in meeting the different market intermediaries' needs will be analysed to see if there is any difference. As growers supply apples to different market intermediaries in different sizes, grades and varieties, further analysis will be undertaken to explore the extent to which growers are rewarded by different downstream market intermediaries for the different value-added activities they perform.

7.2 Introduction

Prices for fresh produce are different between the wholesale level and the retail level. As the movement of fresh produce along the chain is handled by different entities, different costs are incurred at each level. According to Kohls and Uhl (1998), the marketing of fresh produce is influenced by a number of production, product and market characteristics including: (1) perishability; (2) large price and quantity variations; (3) seasonality of supply and to a lesser extent seasonality of demand; (4) alternate product forms; (5) bulkiness of the product; and (6) geographic specialisation in production. Perishability and seasonal variations in supply are among the

main factors affecting prices and returns through the chain especially for the growers.

At the retail level, several other factors determine the retail prices of apples including supply changes; product quality; the timing of supply; product presentation; consumer demand and product recognition (DOA 2003). At the retail level, apples compete with other fresh fruit such as oranges, mandarins, bananas and stone fruit. Changes in the prices of these products will also influence the demand for apples and ultimately the price that growers receive. Carew (2000) indicated that the grade, cultivar, storage and marketing season will influence apple prices. The quality and product characteristics of apples also have important implications for the merchandising strategy of growers, packers and other market intermediaries. Furthermore, variations in the region, duration of harvest, time of storage, post-harvest treatments, seasonality, variety and the quality of the fruit offered for sale will cause much fluctuation in the retail pricing of apples. This can lead to consumer uncertainty and confusion (Spencer 2004).

The traditional belief is that responses to price increases differ from responses to price decreases. According to Ward (1982), price increases at the retail level for fresh produce often result in lower wholesale prices. This situation will subsequently affect prices at the producer level. Furthermore, retailers normally tend to rapidly pass on any price increases to their consumers, but it takes significantly longer for consumer prices to adjust if the producer prices decline (Spencer 2004).

Besides the problem with price, falling consumer demand, increasing labour costs and lower farm gate prices are putting severe pressure on margins for growers (HAL 2001). As perishability is a significant issue for

fresh produce, the product must be moved quickly through the distribution channels, regardless of price.

Given the high capital costs that are associated with grading, waxing and attaching labels to fruit, and the inherent economies of scale that are associated with these operations, not all growers are able to make the necessary investment. Nor are all growers able to dip the fruit, to store the fruit, or to prepack the fruit. Where growers are unable to perform these activities, they must be undertaken by downstream market intermediaries. In the WA apple market, as the two dominant supermarket chains increase their market share, they are becoming more powerful. Reducing the competition between buyers leaves growers as price takers in their transactions with the retail chains. The growth in the institutional market has also contributed to a similar situation. As a result of retail concentration, the importance of wholesalers or market agents within the value chain has decreased, although central markets still exist in all major Australian cities.

In WA, as more buyers transact directly with the growers, this will lead to declining quantities of apples being sold through the Perth Metropolitan Markets (PMM). In WA, it was estimated in 2003, that only 74% of the fresh produce was sold through the PMM compared to 78% in 2001 (PMA, 2004). While theoretically, this should lead to an increase in price, the average price of apples transacted through the wholesale market may not translate into higher profits for growers. Costs are increasing at the farm level for both production (labour, chemicals, fertilisers) and marketing (labour, cartons, stickers, transport) at a faster rate than any corresponding increase in price. Furthermore, as prices in the wholesale market are determined by supply and demand, the prevailing market price can at times be lower than the cost of production. In addition, retailers'

increasing demands for food safety and quality assurance are imposing additional costs on producers that seldom result in an increased price. The decision to adopt or not to adopt a quality assurance system is more often than not a question of market access; choosing not to adopt a quality assurance system may potentially exclude the producer from some markets. In a similar manner, the decision to attach or not to attach labels to the fruit may exclude or prevent growers from selling fruit to supermarket who rely on the four digit PLU to price the product at the checkout register (Batt and Sadler 1998).

7.3 Grower's activities and transaction costs analysis

In this study, the cost to the growers was assumed to start from the point of harvesting the fruit and delivery to the grower's shed. The other related costs that were considered included dipping, grading, labelling, storage, packaging (using different types of packaging) and transportation.

In WA, the harvesting costs ranged from $15 to $500 per tonne with a mean of $123 per tonne. The huge difference in the cost of harvesting is very much dependent on the pruning and training system the growers have adopted like the tree spacings, the age of the trees, the type of rootstock and other related systems including the use of mechanical picking aids.

Most of the growers (62%) indicated that they dipped their apples soon after harvesting and prior to storage. Those who did not dip their apples sold them almost immediately. Among the brands of chemicals most frequently used for dipping were Rovril (23%), DPA (17%), Stop It (13%), Cal (12%) and Spin (11%). The approximate cost per tonne to dip the fruit was $15.

Most growers (60%) indicated that they graded their apples before selling them to the market. For those growers who chose to grade their fruit, most of them (75%) graded all their produce. However, 4 growers (14%) graded only half of their fruit prior to sale or storage (Table 7.1).

Table 7.1: Grower's grading activities for 2003

Grading activities		N	Min	Max	Mean
Graded apples	Yes	30	-	-	-
	No	15	-	-	-
% graded	100%	21	-	-	-
	75%	1	-	-	-
	60%	2	-	-	-
	50%	4	-	-	-
Costs ($/tonne)	All	14	150	500	336

The costs for growers to grade the fruit ranged from $150 to $500 per tonne, with a mean value at $336 per tonne. From the information gathered during the interviews, the cost of grading will increase if more of the fruit handled is of an inferior quality because of the extra labour required to remove poor quality fruit.

As indicated by Sadler (1997), labelling apples is one of the key criteria sought by the supermarkets. For the 40 growers who responded to the question on labelling, most of the growers (58%) indicated that they labelled their fruit prior to sale. The cost of labelling varied from $2 to $100 per tonne with a mean value of $33 per tonne.

Most of the growers (74%) who responded to the questions on fruit storage indicated that they stored their apples in controlled atmosphere or cold storage prior to packaging and selling (Table 7.2).

Most growers stored their apples using controlled atmosphere storage. Controlled atmosphere can prolong the shelf life of apples for as long as 12

months. However, some growers (29%) did not store their apples at all after harvest. Those who did not store their apples normally sold the fruit without delay to their preferred buyers. There were cost differences in storing the apples by both type of storage and the duration of storage.

Table 7.2: Grower's storing activities for 2003

Storing activities		N	Min	Max	Mean
Stored apples	Yes	34	-	-	-
	No	12	-	-	-
GS stored (%)	CA	22	20	100	56
	CS	14	0	80	46
	Not stored	15	20	100	55
PL stored (%)	CA	24	20	100	59
	CS	18	10	100	67
	Not stored	15	5	80	46
Cost to store by storage type ($/tonnes)	CA	30	12	100	55
	CS	20	10	156	84
GS losses (%)	CA	18	1	15	8
	CS	12	5	50	15
PL losses (%)	CA	24	2	25	8
	CS	16	1	35	11

However, when asked about the cost related to the duration of the storage, most respondents gave the average cost of storage on a per month basis. The cost for storing apples using controlled atmosphere ranged from $12 to $100 per tonne, with a mean of $55 per tonne. For cold storage, the costs were in the range of $10 to $156 per tonne, with a mean of $84 per tonne.

Not unexpectedly, there were some losses when storing apples using controlled atmosphere and cold storage. The losses for Pink Lady (24%) during controlled atmosphere storage were higher when compared to Granny Smith (18%). Losses during cold storage were 16% and 12% respectively.

Most growers (68%) indicated that they packed the fruit before sale. Four types of packaging were identified and used by the growers including: returnable plastic crates (RPC), cartons, bulk bins and pre-packed fruit. Each type of container incurred different costs.

The cost of packing fruit into cartons was the highest, with a mean value of $302 per tonne, followed by returnable plastic crates (RPC) at $193 per tonne and bulk-bins at $91 per tonne (Table 7.3).

Table 7.3: Grower's packing cost for 2003 ($/tonne)

Types of packing	N	Min	Max	Mean
Cartons	20	20	600	301.7
RPC	18	50	360	193.1
Bulk bin	16	35	150	91.3
Pre-packed	3	25	35	31.0

Despite the fact that the cost of packing using cartons incurred the highest cost, most of the buyers, especially supermarkets, prefer the fruit to be sold in cartons, as the cost to dispose of the cartons was less and there was less damage to the fruit compared to the other types of packing. For the RPC, growers had to bear the rental costs of the RPC before returning it back to the owner. To ensure that growers will return the rented RPC, some deposit was payable by the growers.

Although pre-packed fruit had the lowest packing cost with the mean value of $31 per tonne, the pre-packed fruit needed to go into another container after packing, hence there was an additional cost incurred to employ bulk bins.

For the delivery cost, the majority of growers (91%) indicated that they were responsible for the cost of transportation to their buyers. Growers

indicated that the cost of delivering fruit to different market intermediaries were different and varied from $15 to $63 per tonne (Table 7.4).

Table 7.4: Grower's delivery cost to each market intermediaries ($/tonne)

Market intermediaries	N	Min	Max	Mean
Secondary wholesalers / provedores	4	55	70	62.5
Market agents	21	5	100	38.1
Supermarkets	3	20	30	26.7
Retailers	14	5	43	16.9
Fruit exporters	1	15	15	15.0
Fruit packers	12	10	25	14.7

The cost to deliver fruit to fruit packers and exporters was the lowest with a mean of $15 per tonne. For the retailers, most growers indicated that the retailers they most often dealt with were located near to their orchard. As market agents, secondary wholesalers and supermarkets were normally located in the Perth metropolitan area, the transportation cost was relatively high compared to other market intermediaries.

To examine if there was any significant difference in the costs between growers according to the cluster groups that had been developed, the independent sample t test was employed (Table 7.5).

There was no significant difference in the costs of handling the fruit between small and large growers except for the cost of grading. For harvesting, while there was an obvious difference in the cost, this may have arisen because the small scale growers do not include the cost of their time, while the larger scale growers employed workers to do most of the harvesting.

Table 7.5: Growers on farm produce cost by cluster

Cost/tonne		Cluster				P
		1		2		
		Mean	SD	Mean	SD	
Harvesting	All	75.0	28.9	128.5	129.7	0.421
Dipping	All	17.0	5.4	14.9	7.9	0.542
Grading	**All**	**150.0**	**0.0**	**366.7**	**117.4**	**0.000**
Labelling	All	29.3	9.7	34.1	28.0	0.741
Storage	Controlled Atmosphere	68.4	31.2	51.8	26.0	0.217
	Cold store	156.0	-	79.9	51.4	-
N		**6**		**43**		

It was no surprise to find that Cluster One (the larger scale growers) had a lower grading cost than Cluster Two. As the large scale growers in Cluster One produced a larger quantity of apples, their packing operations were more cost efficient than the small growers. Most of the members in Cluster One owned their own grading facilities, thus they did not need to employ the grading services provided by other grower packers.

Even although there was no significant difference in the labelling cost between both clusters, small scale growers indicated a higher mean value at $34 per tonne. Sadler (1997) found that labelling apples was difficult for smaller growers because their level of production could not justify the cost of the equipment needed for labelling. Because of this, small growers normally employed contract packers.

7.4 Market intermediary's activities and transaction costs analysis

In determining the costs of handling the fruit along the supply chain, each of the market intermediaries were asked to report the costs that were incurred at each level. However, as most of the respondents were unable to provide the cost of the activities they undertook, the average cost for all

market intermediaries were used. Clearly, most downstream market intermediaries did not want to reveal details of their transaction costs.

In terms of the activity cost for market intermediaries, the associated costs that were identified included transportation, grading and storing prior to despatching the fruit to customers.

Fruit packers

For the eight fruit packers that were interviewed, the majority (87%) indicated that they stored the apples before reselling. Fruit was stored for 50 days to 110 days, with a mean of 84 days. The mean cost of storing the apples for that period of time was $104 per tonne.

Market agents

Only two of the six market agents interviewed graded their apples prior to sale. However, both of them indicated that they graded fruit that had been purchased in bulk bins where the mean cost to grade was $120 per 420 kg bulk bin. For the market agents, only one did not store the fruit for any extended period of time: fruit was sold within two to fourteen days. Furthermore, most of market agents stored the apples with other fresh produce and hence they were unable to provide an accurate costing. However, one of the main market agents that operated in the Perth Metropolitan Market indicated that they stored their apples for more than 120 days at a cost of $180 per tonne. For the costs of transportation, all market agents indicated that they were not responsible for the costs of receiving the fruit from their suppliers.

Secondary wholesalers/provedores

For the secondary wholesalers/provedores, all eight of them indicated that they did not regrade the fruit prior to sale. However, they indicated

that they stored the fruit for one to seven days. When asked for the costs of storing the apples, only one of them was able to provide an answer. For the transportation cost, all the secondary wholesalers/provedores indicated that they were responsible for the cost of delivering the fruit from their suppliers. All eight secondary wholesalers/provedores acquired their fruit from the PMM.

Retailers

For the 25 retailers, the majority (86%) indicated that they did not regrade the fruit before sale, although they often did some grading while putting the fruit on the shelf. As the job was done by them while arranging the display, no costs were associated with grading. For storage, most stored the apples for only one to seven days. Again, it was impossible to establish any cost of storage since the apples were stored with other fruit and vegetables. Most retailers (91%) indicated that they were responsible for the cost of the fruit from their suppliers. As they most often transported a range of fresh fruit and vegetables, it was not possible to specify any transportation costs.

Supermarket

Both supermarkets indicated that they did not undertake any regrading or storage of the fruit prior to re-sale. However, one supermarket indicated that while they were responsible for the cost of transporting the fruit from the PMM, they were not responsible for the cost of transport from growers and fruit packers. The cost of transportation was $12 per tonne.

Fruit exporters

For fruit exporters, none of them undertook any regrading of the fruit before export, nor were they responsible for the cost of transporting the fruit from their suppliers or storing the fruit prior to export. The exporters

indicated that they took the fruit from their suppliers once it is ready to be exported. Thus no storage costs were incurred prior to export.

Because of the limited information provided on the activity costs by the market intermediaries, any meaningful comparison of the costs with those faced by the growers could not be undertaken.

7.5 The comparison of apple's prices between grower and market intermediaries

To determine the price for Granny Smith and Pink Lady apples, a comparison of the prices received by growers from their buyers was undertaken. Further analysis were undertaken to see if there was any difference in the price paid by each market intermediary to their apple supplier for both Granny Smith and Pink Lady.

Whereas the lowest, highest and average prices was asked of growers and customers, only the average prices could be used because not all respondents adequately answered the questions. Supermarkets were unable to provide or disclose any information regarding the price paid to their preferred trading partner due to commercial confidentiality.

The prices for apples were divided into first grade by size and second grade for each variety. Three different size categories were used based on the suggestion from an Australian Apple and Pear Limited (APAL) representative, Mr Vic Grozotis.

For first grade Granny Smith, using size 65 – 80 mm as an indicator, growers reported that the highest prices were received from market agents

followed by retailers and fruit exporters, while the lowest price was received from fruit packers (Table 7.6).

Table 7.6: Price of Granny Smith received by growers from their preferred market intermediaries by sizes for 2003 (average $/tonnes)

Market Intermediaries	The price received by growers from buyers			
	1st Grade			2nd Grade
	<65mm	65-80mm	>80mm	
Fruit packers	493	599	485	304
Market agents	600	850	650	374
Fruit exporters	630	703	640	-
Supermarkets	540	637	540	305
Retailers	621	759	679	346

The price received from market agents was an average price of $850 per tonne for fruit 65 to 80 mm and $374 per tonne for second grade fruit. Growers indicated that retailers offered the second highest price, with an average price of $759 per tonne for the desired size and $346 per tonne for second grade. The prices for Granny Smith received by growers from fruit packers was the lowest compared to other market intermediaries, as no value added activities were undertaken by the growers prior to sale: the fruit was sold immediately after harvest and normally sold in bulk bins.

In 2003, the average prices for Granny Smith apples that were sold in the wholesale market were $500 per tonne for first grade apples (PMC, online). However, the prices given online were based on the type of container not by size, thus the price used was an average for all types of packaging. The results show that the price of apples received by growers was within the range and sometimes even higher for certain sizes.

For Pink Lady apples, the highest prices received by growers for both first grade and second grade apples were from supermarkets, with an average

price of $1417 per tonne for the 65 to 80 mm size and $625 per tonne for second grade fruit (Table 7.7).

Table 7.7: Price of Pink Lady received by growers from their preferred market intermediaries by sizes for 2003 (average $/tonnes)

Market Intermediaries	The price received by growers from buyers			
	1st Grade			2nd Grade
	<65mm	65-80mm	>80mm	
Fruit packers	897	1149	927	478
Market agents	883	1259	947	480
Fruit exporters	1190	1268	1200	-
Supermarkets	1160	1417	1200	625
Retailers	1059	1224	1055	508

For Pink Lady, fruit exporters offered the second highest price to growers with an average price of $1268 per tonne. The lowest price was received from the fruit packers. By comparison, in 2003, the average price for Pink Lady apples sold through the wholesale market was $1136 per tonne for first grade apples (PMC, online).

The price paid by retailers direct to growers indicates that they paid the highest price for first grade Granny Smith apples with an average price of $785 per tonne for 65 to 80mm sized fruit, compared to other market intermediaries (Table 7.8).

Market agents indicated that they paid an average price of $750 per tonne for 65 to 80 mm first grade and $400 per tonne for second grade Granny Smith apple. The lowest prices were paid to growers by fruit packers for both first and second grade apples of $570 and $320 per tonne respectively.

Table 7.8: Price of Granny Smith paid by market intermediaries to growers by sizes for 2003 (average $/tonnes)

Market Intermediaries	The price paid by buyers to growers			
	1st Grade			2nd Grade
	<64mm	65-80mm	>80mm	
Fruit packers	500	570	466	320
Market agents	575	750	450	400
Fruit exporters	600	720	620	-
Supermarkets	-	-	-	-
Retailers	610	785	690	350

Retailers also indicated that they paid the highest prices direct to growers for both first grade and second grade Pink Lady, with an average price of $1450 for 65 – 80 mm fruit and $475 per tonne for second grade fruit (Table 7.9).

Table 7.9: Price of Pink Lady paid by market intermediaries to growers by sizes for 2003 (average $/tonnes)

Market Intermediaries	The price paid by buyers to growers			
	1st Grade			2nd Grade
	<64	65-80	>80	
Fruit packers	795	1120	855	433
Market agents	600	1275	625	450
Fruit exporters	980	1238	1030	-
Supermarkets	-	-	-	-
Retailers	998	1450	1055	475

The lowest prices were paid to growers by fruit packers with average prices of $1120 for 65 to 80 mm fruit and $433 per tonne for second grade Pink Lady. Fruit packers paid the lowest price to growers for both Granny Smith and Pink Lady apples due to the fact that fruit packers normally bought the apples in bulk bins immediately or soon after harvest.

Irrespective of the variety, the results show that producing apples larger than 80 mm is unwise and producing fruit smaller than 65 mm is not good, due to the fact that both sizes were sold at lower prices.

To examine if there was any difference in the prices received by growers from their downstream buyers based on their cluster group, further analysis using the independent t-test between the two groups was employed.

While the results indicate that large scale growers did achieve higher prices for all grades of Pink Lady apple compared to the small scale growers, there was a significant difference in the average price only for that fruit below 64 mm (Table 7.10).

Table 7.10: Price for Pink Lady paid to growers by cluster

Average prices/size	Cluster	N	Mean	SD	p
<64 mm	**1**	**7**	**1147.1**	**183.2**	**0.014**
	2	**26**	**962.3**	**214.5**	
65-79 mm	1	7	1407.1	307.4	0.173
	2	28	1191.4	285.7	
>80 mm	1	7	1150.0	189.3	0.112
	2	26	995.6	221.7	
2nd Grade	1	5	580.0	75.8	0.380
	2	17	469.1	75.2	

This should not come as any great surprise, for only the larger scale growers (Cluster One) transacted with the supermarkets who were observed to pay the highest price. On the other hand, the smaller growers were more likely to sell to a fruit packer who paid the lowest average price.

For the price received by growers for Granny Smith by cluster, there were significant differences in the average price of apples below 64mm and for second grade fruit, with the larger scale growers (Cluster One) receiving a higher price in both instances (Table 7.11).

Table 7.11: Price for Granny Smith paid to growers by cluster

Average prices/size	Cluster	N	Mean	SD	p
<64 mm	**1**	**7**	**710.0**	**200.1**	**0.046**
	2	**27**	**537.0**	**145.2**	
65-79 mm	1	7	815.7	238.0	0.087
	2	29	688.9	212.0	
>80 mm	1	7	695.7	178.3	0.103
	2	27	571.5	179.1	
2nd Grade	**1**	**4**	**377.5**	**148.4**	**0.009**
	2	**18**	**321.1**	**106.3**	

Not unexpectedly, in being more able to supply in volume and for a longer period, larger scale growers were able to get a higher average price from their preferred trading partners compared to the smaller scale growers. Only the larger scale growers were able to transact with the supermarkets.

Given the limitations in the data on the costs incurred by growers during their transactions with their preferred market intermediaries, the average cost of each value-added activity that was undertaken by the growers was used. It was noted that the costs required to harvest, dip, grade, label and store were the same for each market intermediary (Table 7.12).

However, the cost for packing and delivery were different depending upon the customer to which the grower consigned their fruit. For market agents and retailers, the packing used were RPC. Cartons were used for fruit exporters and supermarkets.

Table 7.12: Profit received by growers from each market intermediaries for Granny Smith apple (average $/ tonne)

		Market agents	Fruit exporters	Super-markets	Retailers
Cost	Harvest	123	123	123	123
	Dip	15	15	15	15
	Grade	336	336	336	336
	Label	33	33	33	33
	CA Storage	55	55	55	55
	Packing	193	301	301	193
	Delivery	38	15	27	17
	Total Cost	**(793)**	**(878)**	**(890)**	**(772)**
Average Return (Granny Smith 1st Grade: 65 -80 mm)		850	703	637	759
Profit		**57**	**-175**	**-253**	**-13**

In determining the average return, the price of 1st grade Granny Smith apples with the size range between 65-80 mm were used since this was the price received by growers from each of their market intermediaries. Growers received an average profit of $57 per tonne from market agents. However, when growers sold their apples to fruit exporters, supermarkets and retailers, they generally incurred a loss. Growers faced the greatest loss when they sold to supermarkets. The high cost of grading and packing were largely responsible for this outcome. Thus it comes as no surprise to find an increasing number of small growers using contract packers to pack and handle the fruit after harvest.

However, for Pink Lady, it was more profitable for growers to undertake all the value added activities on their own (Table 7.13). Growers could obtain the best profit ($527 per tonne) by selling direct to supermarkets followed by market agents at $466 per tonne. The lowest profit gained by growers resulted from sales to fruit exporters at $390 per tonne.

Table 7.13: Profit received by growers from each market intermediaries for Pink Lady apple (average $/ tonne)

		Market agents	Fruit exporters	Super-markets	Retailers
Cost	Harvest	123	123	123	123
	Dip	15	15	15	15
	Grade	336	336	336	336
	Label	33	33	33	33
	CA Storage	55	55	55	55
	Packing	193	301	301	193
	Delivery	38	15	27	17
	Total Cost	**(793)**	**(878)**	**(890)**	**(772)**
Average Return (Pink Lady 1st Grade: 65 -80 mm)		1259	1268	1417	1224
Profit		**466**	**390**	**527**	**452**

Despite the extra value-added activities demanded by supermarkets, it was no surprise to find that growers were trying their best to fulfil the supermarkets needs, since they could achieve the best profit. However, this was clearly dependent on the prevailing prices growers received for each variety.

7.5 Chapter summary and conclusion

Prices are often viewed as sensitive issues and most respondents were reluctant to reveal the prices they received or paid to their preferred trading partners. Besides prices, the other related activity costs associated with their business were not provided due to the confidentiality of the information. Thus, some secondary data and information from previous research was used to compare prices and other related activity costs.

Based on the cluster groupings, there were significant differences in the grower's on-farm marketing costs between small and large scale growers. However, it is only the grading costs that are significantly different. This

suggests that it is more cost effective for small scale growers to employ fruit packers to grade and pack their fruit. Furthermore, large scale growers get a higher price from their preferred trading partners because of their ability to supply in volume and on a continuous basis.

Growers complained that retail concentration has resulted in a reduction in competition effectively leaving the growers as price takers. In the current market, growers were competing with each other to supply the larger retailers, which drove the price down.

The findings of the study show that growers can achieve higher profits by supplying directly to supermarkets those varieties which are in high demand. However, as the popularity of the variety wanes and prices ease, transacting directly with the supermarkets, more so in a saturated market, may reduce the profits to growers. Where prices are not increasing, growers must therefore take appropriate steps to reduce costs. Clearly, in an industry where economies of scale are evident, the larger growers are in a better position to compete.

Furthermore, the international cost competitiveness of WA is poor. The domestic market prices are higher than the export prices. In other words, overseas customers are less willing to pay for fruit that is not competitively priced because they have access to the world's best. As WA is a 'protected' market, inefficiencies will emerge as WA apple growers do not have to face international competition in the domestic market. Nevertheless, in order to remain profitable, it is important for growers to introduce new varieties. As indicated by Fearne and Hughes (2000), the success factors in the fresh produce industry include continuous investment, volume growth and product innovations.

Although most market intermediaries are trying to acquire fruit directly from growers, the central markets will always find favour for the secondary wholesalers and small retailers because they normally purchase in small volumes and have the opportunity to select a wide range of fresh fruit and vegetable items in the one place.

CHAPTER 8

DIFFERENCES IN OFFER QUALITY ALONG THE FRESH PRODUCE SUPPLY CHAIN

8.1 Chapter Outline

This chapter will examine the various factors that relate to the offer quality that each participant in the apple supply chain wants and what they actually receive from the various suppliers with whom they transact. As the offer quality is expected to be different between each participant, some variables are expected to become more or less important. By knowing what customers want and the various problems suppliers experience in being able to meet customer's demands, it then becomes possible to address the various constraints to improve the offer quality and to improve competitive position.

8.2 Introduction

In the fresh produce industry, quality is regarded as the most important aspect in determining the price received for the produce. According to Folley (1973), growers normally have more control over product quality than they do over the price. However, as White (2000) has noted, fresh produce is highly perishable and sensitive to mishandling and damage. This means that the quality of the produce received by downstream customers will ultimately depend on how well upstream suppliers have handled the produce. The key issue here is that the more people who handle the product, the more the quality of the produce will deteriorate. Thus, supermarkets normally choose to purchase produce direct from the

growers. Besides that, there are also some cost implications through less product wastage.

Furthermore, it is widely acknowledged that different end customers often have very different quality expectations. Korneliussen and Gronhaug (2003) show how upstream participants in the supply chain put more emphasis on distribution quality as compared to participants further downstream who put greater emphasis on product quality. Parker (1993) suggests that if producers can match quality characteristics with price responses, potentially, they can maximise profits by selling the right produce to the right customers.

According to Kotler and Armstrong (1999), to succeed in business-to-business markets, a supplier must understand what their customers want and aim to satisfy those requirements more effectively than competitors. In order to be more competitive, firm's need to provide augmented products and services that offer their buyers more than they expect to receive or think is necessary. Monckza (1998) indicated that fifty percent of a firm's quality problems result from poor selection and management of the supply base. He suggests that buyers should select those suppliers who can meet their requirements in key performance areas like price, quality, service and delivery. Wilson (1994) also considered criteria such as quality, price and the ability to deliver as the most important factors for buyers in evaluating their potential suppliers.

According to Kotler *et al.* (1989), supplier selection usually involves an analysis of the supplier's capabilities such as technical competence, their ability to provide the necessary services and their ability to deliver on time. As Tracey and Tan (2001) noted, while buyers normally focus on price reduction, suppliers usually strive to get their buyers to recognise

the total value of their offer. This includes the price plus quality and delivery, as well as technical capability and other value-adding activities

Ellram (1990) explored supplier selection using both hard and soft criteria. Hard criteria included price, quality, delivery and service, while the soft criteria included those that were hard to quantify like compatibility and the strategic direction that the supplier was taking in terms of building long-term relationships with buyers.

In terms of the customer selection criteria, rational economic theory suggests that growers will sell their produce to those customers who offer the highest price. However, price is not the only criteria to consider: growers will choose customers based on other criteria such as prompt payment terms, packaging, delivery, promotional support and others.

8.3 What growers want and get from their preferred downstream customer(s)

In this section, the difference between what growers perceive they want and what they actually get from their preferred downstream customers was examined. To assess the criteria used by growers in deciding to whom they would sell their fruit, an open ended question was initially used.

In deciding to whom they would sell their fruit, the most frequently cited responses by growers were high price/best returns (61%) and an established long-term relationship with the customer (33%) (Table 8.1).

Table 8.1: Grower's criteria used in deciding to whom they would sell their fruit

Response	Frequency	Percentage
High price/best returns	28	61
Relationship	15	33
Good service	6	13
Trust	4	9
Honesty	3	7
Reliability	3	7
Ability	2	3
Nearest retail agent	2	3
Continue business	1	2
Fair	1	2
Supply and demand	1	2
Prompt payment	1	2
Able to sell second grade fruit	1	2
Financially sound	1	2
Type of packaging used	1	2
N = 46		

The importance of the relational elements of the exchange were reinforced by such responses as trust, honesty, reliability, ability, the desire to continue to trade and fairness. Doing business with people the growers knew and trusted could potentially reduce the risk of being taken advantage of by opportunistic buyers. Besides that, growers preferred to transact with those buyers who could offer them good service (13%).

Not unexpectedly, in choosing between alternative customers, the importance of economic and the relational elements in the exchange was reinforced when growers were asked to rate the importance of twelve customer selection criteria (Table 8.2).

Table 8.2: Important factors to growers in choosing between alternative customers

Factors	Mean	SD
Fair price	5.72[a]	0.45
Financially strong	5.48[a]	0.79
Good business reputation	5.32[a]	0.79
Favourable payment terms	5.20[a]	0.93
Take all my harvested fruit	5.18[a]	1.17
Frequent communication	4.84[a]	1.38
Willing to meet my immediate needs	4.54[a]	1.36
Close personal relationship	4.54[a]	1.33
Provides market information	4.48[b]	1.78
Provides technical information/advice	3.32[c]	1.68
Geographically close	3.28[d]	1.90
Transport apples from my orchard	2.34[d]	1.57
N = 50		

where 1.0 is not at all important and 6.0 is very important
those values with the same superscript are not significantly different at p = 0.05

In choosing between alternative customers, the economic criteria included a fair price, financially strong, favourable payment terms and the ability to take all the growers fruit. The relational elements included a good business reputation, frequent communication and a close personal relationship. Geographic proximity and the capacity to transport the grower's fruit were the least important criteria, presumably because of the distance between the farm and consumers in the Perth metropolitan area. As transportation costs are normally covered by the growers, it was no surprise to find that this was considered the least important variable.

Given that so many variables were rated as being very important by the growers, there was a strong possibility that significant correlations might exist between several of the variables. Principal component analysis revealed three factors that collectively explained over 76% of the variance (Table 8.3).

Table 8.3: Factors influencing apple grower's choice of alternatives preferred customers

	Factor loadings		
	1	2	3
Fair price	.836		
Financially strong	.785		
Good business reputation	.771		
Provides market information		.905	
Frequent communication		.858	
Geographically close			.899
Transport apples from my orchard			.842
Eigenvalue	2.507	1.648	1.219
Percent variance	35.82	23.54	17.42
Cumulative variance	35.82	59.36	76.78
Cronbach's alpha	.74	.77	.70
Factor mean	5.51	4.66	2.81

Factor 1 (propensity to pay) consisted of three variables that evaluated the extent to which preferred customers could offer a fair price, were financially strong and had a good business reputation. While growers always endeavoured to secure a high price, it was just as important to ensure that they actually received payment. A customer who was financially strong and had a good business reputation was less likely to default.

Growers preferred to transact with those customers who always communicated with them and were able to provide market information (Factor 2). By knowing the price of apples in the market, growers could make informed decisions as to whether to sell or to hold onto the fruit, what quantities to sell and how it might best be packed in order to meet the buyers specifications.

Factor 3 (location) was related to geographic proximity and the need for growers to pay for the cost of transporting their fruit to the customer premises. Given that most growers were located some distance from the

buyer and that they were in most cases, responsible for the delivery of fruit to the customer, this was the least important variable.

Having identified the factors that most influenced growers in choosing their preferred customer, a further examination of what the growers wanted and what the growers actually got from their preferred customers was undertaken for each of the customer groups with whom the growers transacted. The paired t-test was used to measure the difference in what growers expected and what they actually received from their preferred customer.

8.3.1 Grower's transaction with fruit packers

In terms of the grower's transaction with fruit packers, from the total of 50 respondents, only 14 growers sold fruit to fruit packers. Having identified the growers through the cluster analysis that was undertaken earlier, all 14 growers were small scale growers. Presumably, in the absence of suitable fruit handling facilities of their own, the smaller growers either engaged the fruit packers to grade or pack their fruit under contract for some predetermined price, or they sold the fruit outright immediately after harvest.

In examining what the growers wanted and actually received from their preferred fruit packer, for the first two measures, fair price and financial strength, the fruit packers were perceived to be weak (Table 8.4). In part, the smaller growers may fail to recognise how much added value the appropriate dipping, washing, waxing, grading, labelling and packing of fruit contributes to the wholesale price.

Table 8.4: What growers want and get from their preferred fruit packer

Factors	Grower wants[1]		Grower Gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Fair price	**5.67**	**0.49**	**4.83**	**1.03**	**3.08**	**0.01**
Financially strong	**5.42**	**0.90**	**4.83**	**0.94**	**2.24**	**0.05**
Good business reputation	5.17	0.84	5.00	0.95	0.52	0.62
Take all my harvested fruit	5.08	1.44	5.42	0.79	-0.67	0.52
Favourable payment terms	5.00	1.04	4.92	0.79	0.32	0.75
Close personal relationship	4.83	1.34	4.33	1.44	1.15	0.28
Frequent communication	4.75	1.66	4.58	0.79	0.32	0.75
Provides market information	4.08	2.19	4.58	1.31	-0.69	0.50
Willing to meet my immediate needs	4.08	1.93	4.42	0.90	-0.65	0.53
Geographically close	3.92	1.88	4.83	1.53	-1.17	0.27
Provides technical information/ advice	3.00	2.17	3.75	1.06	-0.96	0.36
Transport apples from my orchard	2.75	1.66	1.92	1.56	1.13	0.28
N = 14						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

Furthermore, despite the significant additional investment that the fruit packers have made in infrastructure and equipment, after all, they are growers themselves, and they therefore face the same volatility and uncertainty of price in the market. When prices are low, this will erode the fruit packer's equity, thus leading to a perception that they are not financially strong.

On a more positive note, fruit packers were generally able to take all the growers harvested fruit, to provide technical advice and market information, and to meet the grower's immediate needs. Most of the fruit packers were located geographically close to the grower's properties.

For those growers who did not transact with fruit packers, not unexpectedly, the main reason growers gave for not transacting with fruit

packers was that they had their own fruit handling and packing facilities (50%) (Table 8.5).

Table 8.5: Reasons growers gave for not dealing with fruit packers

Response	Frequency	Percent
Own facilities	16	50
Satisfied with preferred customer	9	28
Market own fruit	7	22
Happy where we are	5	16
Save money	3	9
Sell ourselves	2	6
Volume	2	6
Salesman pack it	1	3
Quality	1	3
N = 32		

Besides that, the other reasons given by growers for not transacting with fruit packers included the grower's satisfaction in their transactions with current customers (28%) and the growers desire to market their own fruit (22%).

8.3.2 Grower's transaction with market agents

In terms of the gap between what growers wanted and what their preferred market agent was able to deliver, most of the growers indicated that they were dissatisfied (Table 8.6).

As the price in the wholesale market is determined by supply and demand, there is much price uncertainty. Growers often feel that they do not get a fair price commensurate with the effort they have put in to produce the fruit. This situation is further aggravated by the often marked price difference between the wholesale price and the retail selling price.

Table 8.6: What growers want and get from their preferred market agent

Factors	Grower wants[1]		Grower gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Fair price	**5.74**	**0.45**	**4.74**	**1.01**	**5.62**	**0.00**
Financially strong	5.35	0.83	5.26	0.92	0.44	0.67
Good business reputation	**5.22**	**0.80**	**4.26**	**1.39**	**2.90**	**0.01**
Favourable payment terms	**5.13**	**0.97**	**4.48**	**1.16**	**2.14**	**0.04**
Take all my harvested fruit	4.91	1.47	5.26	0.86	-1.16	0.26
Frequent communication	4.65	1.53	4.83	0.94	-0.47	0.64
Close personal relationship	4.48	1.31	4.57	1.47	-0.25	0.80
Willing to meet my immediate needs	4.39	1.56	3.87	1.33	1.28	0.21
Provides market information	4.22	1.98	3.57	1.59	1.39	0.18
Geographically close	3.13	1.94	2.52	1.76	1.36	0.19
Provides technical information / advice	3.22	1.81	3.35	1.50	-0.32	0.75
Transport apples from my orchard	2.43	1.47	2.04	1.61	0.93	0.36
N = 22						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

The business reputation of many market agents is low as indicated by Batt (2003). Although market agents pay the growers fortnightly or monthly, in the past, several market agents have failed, and thus there is an element of risk that growers will not get paid. Furthermore, most market agents are not transparent and seldom willing to provide market information or to meet grower's immediate needs. For these reasons, growers prefer to transact with those market agents with whom they have a close long-term relationship. Nevertheless, most growers prefer to transact with multiple agents to ensure that they receive a fair price.

Due to the fact that price is determined by supply and demand, 30% of the growers who did not transact with market agents indicated that the lack of market information was the main reason for not transacting with market agents (Table 8.7).

Table 8.7: Reasons growers gave for not dealing with market agents

Response	Frequency	Percent
Never get information on market price	6	30
No trust	5	25
Satisfied with preferred one	4	20
Selling ourselves	3	15
Market own fruit	2	10
Unpaid	2	10
Too demanding	1	5
Not cost effective	1	5
N = 20		

Other reasons given by the growers for not transacting with market agents included the lack of trust (25%), they were satisfied with their existing trading partner (20%) and the growers sold their fruit themselves (15%).

8.3.3 Grower's transactions with secondary wholesalers/provedores

In terms of the grower's transactions with secondary wholesalers/provedores, growers indicated that they were often dissatisfied (Table 8.8).

While only two growers transacted directly with secondary wholesalers and provedores, growers believed that they did not get a fair price. Furthermore, secondary wholesalers/provedores did not always have a good business reputation. In part, this was a result of the secondary wholesaler's failure to communicate, to meet the grower's immediate needs, and to provide technical information and market information.

For the two growers who chose to transact with the secondary wholesalers/provedores, the reasons for doing so were the close long term relationships between them. Secondary wholesalers/provedores were able

to take all the growers fruit, and they were geographically close to each other.

Table 8.8: What growers want and get from their preferred secondary wholesaler/provedore

Factors	Grower wants[1]		Grower gets[2]	
	Mean	SD	Mean	SD
Fair price	6.00	0.00	4.50	0.71
Financially strong	5.50	0.71	5.00	0.00
Good business reputation	5.50	0.71	4.50	0.71
Take all my harvested fruit	5.00	1.41	5.50	0.71
Close personal relationship	5.00	0.00	5.50	0.71
Favourable payment terms	5.00	1.41	4.50	2.12
Frequent communication	5.00	0.00	3.50	0.71
Willing to meet my immediate needs	4.50	0.71	3.00	0.00
Provides technical information/advice	3.50	2.12	2.00	1.41
Provides market information	3.50	2.12	2.00	1.41
Geographically close to me	3.50	0.71	5.00	1.41
Transport apples from my orchard	2.50	2.12	3.50	3.36
N = 2				

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well

The main reason for growers not to sell their fruit to secondary wholesalers/provedores was because they were satisfied with their preferred trading partner (40%). Others indicated that they did not have enough fruit available (20%) and it was not cost effective to transact with secondary wholesalers (20%) (Table 8.9).

Table 8.9: Reasons growers gave for not dealing with secondary wholesalers/provedores

Response	Frequency	Percent
Satisfied with preferred one	6	40
Enough market	3	20
Not cost effective	3	20
Do not meet our criteria	2	13
No reason	2	13
Selling ourselves	1	7
Happy where we are	1	7
Low quantity required	1	7
Middleman job	1	7
N = 15		

8.3.4 Grower's transactions with supermarkets

In terms of the gap between what growers wanted and what their preferred supermarket was able to deliver, most of the growers indicated that they were dissatisfied (Table 8.10).

Table 8.10: What growers want and get from their preferred supermarket

Factors	Grower wants[1]		Grower gets[2]	
	Mean	SD	Mean	SD
Fair price	6.00	0.00	5.33	.58
Take all my harvested fruit	6.00	0.00	4.67	1.16
Financially strong	6.00	0.00	6.00	0.00
Favourable payment terms	5.67	0.58	5.00	1.73
Willing to meet my immediate needs	5.67	0.58	4.67	1.16
Frequent communication	5.67	0.58	4.00	2.65
Close personal relationship	5.67	0.58	3.00	2.00
Provides market information	5.67	0.58	1.67	1.16
Good business reputation	5.33	1.16	5.67	0.58
Provides technical information/ advice	4.00	1.73	2.00	1.73
Geographically close	3.67	2.52	3.33	1.53
Transport apples from my orchard	2.67	2.89	1.00	0.00
N = 3				

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well

Even although only three large growers indicated that they were transacting directly with supermarkets, they choose to do so because they needed to move a large volume of fruit. Hence, the larger growers transacted with the supermarket although they did not achieve the best price because it allowed them to move volume. The supermarkets did not take all the growers fruit because they had specifications, but they were financially strong and they did have a good reputation which provided some guarantee of payment. While the terms of payment were generally 90 days, the larger growers were able to accommodate that.

Most notable was that the transaction between growers and supermarkets was purely business. There is little evidence of any social or personal relationship. They seldom communicated and little market or technical information was provided by the supermarkets during their transactions.

The main reasons growers gave for not dealing with the supermarkets was that they were too demanding (44%). A further 33% of the growers found it too hard to deal directly with supermarkets and 22% of the growers indicated that they had insufficient volume (Table 8.11).

Table 8.11: Reasons grower gave for not dealing with supermarkets

Response	Frequency	Percent
Too demanding	8	44
Hard to handle or deal directly	6	33
Not enough volume	4	22
Selling ourselves	3	17
Do not meet our criteria	1	6
Not cost effective	1	6
N = 18		

8.3.5 Grower's transactions with retailers

By examining the gap between growers and their preferred retailer, it was evident that most growers believed they were getting a fair price. The retailer was perceived to be financially strong and to have a good business reputation. Furthermore, the retailer's terms of payment were generally good (Table 8.12).

Table 8.12: What growers want and get from their preferred retailer

Factors	Grower wants[1]		Grower gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Fair price	5.60	0.52	5.30	0.68	1.00	0.34
Financially strong	5.50	0.97	5.60	0.52	-0.26	0.80
Good business reputation	5.20	0.92	5.20	0.79	0.00	1.00
Favourable payment terms	5.10	1.10	5.20	1.23	-0.19	0.85
Frequent communication	5.00	1.56	3.90	1.66	1.30	0.23
Take all my harvested fruit	4.90	1.52	4.60	1.17	0.43	0.68
Close personal relationship	4.80	1.48	4.00	1.83	1.35	0.21
Provides market information	**4.60**	**2.01**	**1.80**	**1.03**	**4.02**	**0.00**
Willing to meet my immediate needs	4.10	2.08	3.80	1.32	0.29	0.78
Geographically close	3.90	2.03	4.50	1.27	-0.84	0.43
Provides technical information / advice	3.30	2.26	2.00	1.25	1.74	0.12
Transport apples from my orchard	2.90	1.73	1.50	1.58	1.61	0.14
N = 10						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p = 0.05

However, retailers did not often communicate with the growers and there was little exchange of market information or technical information. This situation arose because retailers were themselves customers, transacting primarily with market agents or secondary wholesalers/provedores. It was in their best interest to withhold information on the price at which

they were purchasing fruit from other suppliers and to use that information to negotiate lower prices from growers.

In terms of delivery, growers had to deliver the fruit to retailers. However, retailers were generally geographically close to the growers. Furthermore, the growers generally had a close personal friendship with the retailer. Presumably, because the retailer was not a major outlet for the grower, the grower's relationship with their preferred market agent was much closer.

In determining the reasons why growers did not deal directly with retailers, 36% of the growers who did not transact directly with retailers indicated that it was not cost effective for them to transact directly with retailers (Table 8.13).

Table 8.13: Reasons growers gave for not dealing with retailers

Response	Frequency	Percent
Not cost effective	5	36
Price is too low	3	21
Do not meet our criteria	3	21
Selling ourselves	2	14
Hard to handle or deal directly	2	14
Happy where we are	1	7
Too demanding	1	7
Middleman job	1	7
Volume is too small	1	7
N = 14		

Some 21% of the growers stated that the prices offered were too low and a further 21% indicated that they were unable to meet the retailers criteria. In this study, most of the retailers were categorised as green grocers, who generally purchased in only small quantities.

8.3.6 Grower's transactions with fruit exporters

When looking at the transactions between growers and their preferred fruit exporter, there was a significant gap between what the growers actually wanted and what they actually achieved from their transactions (Table 8.14).

Table 8.14: What growers want and get from their preferred fruit exporter

Factors	Grower wants[1]		Grower Gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Fair price	**5.65**	**0.49**	**4.47**	**1.23**	**3.92**	**0.00**
Financially strong	5.29	0.85	4.71	1.11	1.83	0.09
Take all my harvested fruit	**5.18**	**1.24**	**4.00**	**1.62**	**2.25**	**0.04**
Good business reputation	**5.18**	**0.81**	**3.94**	**1.09**	**3.92**	**0.00**
Favourable payment terms	4.82	0.95	4.71	1.16	0.46	0.65
Close personal relationship	**4.53**	**1.46**	**3.41**	**1.37**	**3.27**	**0.01**
Frequent communication	4.41	1.70	3.88	1.50	0.87	0.40
Willing to meet my immediate needs	4.24	1.72	3.88	1.22	0.81	0.43
Provides market information	3.76	2.11	4.65	1.06	-1.63	0.12
Geographically close	3.65	1.90	3.18	1.43	0.80	0.44
Provides technical information/ advice	**3.12**	**1.97**	**4.35**	**1.12**	**-2.45**	**0.03**
Transport apples from my orchard	**2.59**	**1.54**	**4.35**	**1.46**	**-3.41**	**0.00**
N = 17						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

There was a significant difference between the price growers expected and the ability of the fruit exporter to provide a fair price and to take all the growers' harvested fruit. Fruit exporters were unable to provide a fair price because of the low price offered by Chinese exporters in the world market. Fruit exporters were unable to take all the growers harvested fruit because the export market normally required high quality fruit. Thus, growers perceived that they were not being rewarded for the extra effort it

required to meet international specifications. Other markets were more attractive and less demanding.

With regard to the exporter's business reputation and the manner in which the exporters were paid for their services – commission on sales - if the exporter made a poor decision, growers could receive substantially less than what they had been promised. Problems with rejection and exchange rate fluctuations made it too risky for the growers. Furthermore, there was little evidence of any personal relationships between growers and fruit exporters. However, growers did get some market information or feedback and technical information/advice from fruit exporters. Furthermore, it was apparent that most exporters arranged to pick up the growers fruit from their orchard.

When asked why growers did not transact with fruit exporters, 54% of the growers who did not transact with exporters indicated that fruit exporters were too demanding. In terms of the price received, 38% of growers felt that they had not been paid enough. There was a high degree of risk associated with the export market (23%), and for 15% of growers, it was simply not cost effective (Table 8.15).

Table 8.15: Reasons growers gave for not dealing with fruit exporters

Response	**Frequency**	**Percent**
Too demanding	7	54
Price/do not pay enough	5	38
High risk	3	23
Not cost effective	2	15
Inadequate to export	2	15
Payment	1	8
N = 13		

A further 15% of growers indicated that they did not have the volume of fruit available to export.

8.3.7 Summary and evaluation from the growers perspective

Through examining the gaps between what growers desired from their preferred buyers and what they actually received, most growers did not get what they expected from their transactions with preferred customers. To explore the extent to which one or more groups of customers were better able to meet the grower's expectations, an examination of what the growers received from each market intermediary was undertaken. With regard to the small sample size, it was not possible to undertake any quantitative analysis and thus, by default, the responses were examined more qualitatively (Table 8.16).

Table 8.16: Comparing what do growers get from their different preferred customer

Factors	G get FP	G get FE	G get MA	G get WS	G get S	G get R
Take all my harvested fruit	5.42	4.00	5.32	5.50	4.67	4.60
Fair price	4.83	4.47	4.74	4.50	5.33	5.30
Favourable payment terms	4.92	4.71	4.48	4.50	5.00	5.20
Financially strong	4.83	4.71	5.26	5.00	6.00	5.60
Good business reputation	5.00	3.94	4.26	4.50	5.67	5.20
Provides technical information / advice	3.75	4.35	3.35	2.00	2.00	2.00
Provides market information	4.58	4.65	3.57	2.00	1.67	1.80
Transport apples from my orchard	1.92	4.35	2.04	3.50	1.00	1.50
Willing to meet my immediate needs	4.42	3.88	3.87	3.00	4.67	3.80
Geographically close to me	4.83	3.18	2.52	5.00	3.33	4.50
Close personal relationship	4.33	3.41	4.57	5.50	3.00	4.00
Frequent communication	4.58	3.88	4.83	3.50	4.00	3.90

where 1.0 is not at all well and 6.0 is very well

In terms of the ability of market intermediaries to take the harvested fruit, fruit packers and market agents were able to take all the fruit, while supermarkets would only take that fruit which met their specifications. Fruit exporters and the secondary wholesalers and provedores were even more demanding.

By eliminating market intermediaries, growers were able to achieve the best prices by transacting direct with supermarkets and retailers. However, this entails additional costs that most growers do not readily see for they focus more on marginal returns than marginal costs. Growers indicated that retailers provided the most favourable terms of payment; presumably cash on delivery.

In term of financial strength, fruit exporters were perceived to be the less secure. If a shipment was rejected growers could loose everything and if there were significant movements in the exchange rates, growers could receive significantly less than they expected. The fruit packers are large-scale growers who maybe even more exposed to financial problems if prices fall. Conversely, the supermarkets and retailers were perceived to be financially strong by the growers.

Fruit exporters were perceived to have the poorest business reputation. Perhaps, in part, this is because export is very opportunistic: exporters have a very narrow window into which they can supply fruit. Market agents also do not have a good reputation. This may arise from many years of previous or past experience, where in the absence of adequate price transmission, many market agents were perceived to be taking advantage of the growers. Supermarkets and retailers had a good business reputation, presumably because they always paid for the fruit purchased. In some instances, fruit packers may purchase the growers fruit in bulk

but in other instances, they were engaged to grade, label and pack the growers fruit under contract. As such, there is no physical exchange or transaction: the fruit packers were engaged to provide a service.

In terms of the ability of market intermediaries to provide technical information or advice to the growers, supermarkets were the least able to provide any information needed by the growers followed by retailers, secondary wholesalers and market agents. Fruit exporters, on the other hand, were more capable of providing technical information or advice and market information to the growers during the transactions. This may be due to the fact that growers were paid by fruit exporters after the fruit had been sold thus, growers needed to be informed and advised throughout the process.

As expected, supermarkets and retailers were not willing to transport the fruit on their own from the grower's orchard to their distribution centre, as this cost was normally covered by the growers. However, fruit exporters were the most willing to transport fruit from the grower's orchard to their premises.

Fruit packers were the most willing to meet grower's immediate needs. Given that some growers were unable to grade, label and pack their fruit, fruit packers took all the growers fruit and handled it as instructed. While the supermarkets, market agents and fruit exporters also demonstrated a willingness to meet the grower's immediate needs, secondary wholesalers and provedores were the least willing.

Wholesalers, retailers and fruit packers were geographically close to the growers. Those wholesalers and retailers that purchased directly from growers were generally close to the grower's orchard. Supermarkets and

market agents were located some distance from the grower's orchard. The market agents operated their business from the Perth Metropolitan Market. The supermarkets normally purchased their fruit through their distribution centre which was also located in the Perth metropolitan area.

Growers indicated that they had the closest personal relationship with the secondary wholesalers, followed with market agents and fruit packers. In contrast to much of what has been written (Hingley 2005), the growers seemed to have a reasonably close relationship with the supermarkets and retailers with whom they transacted directly. Growers indicated that they had the most frequent communication with market agents and fruit packers. Presumably this was because these two market intermediaries handled the majority of the small grower's fruit. Conversely, supermarkets communicated the least with those growers who chose to supply the supermarket directly.

8.4 What customers want

In this section, the factors that are considered important by apple buyers in Western Australia when choosing their preferred supplier are examined. The buyers in the Western Australian apple supply chain have been identified as fruit packers, market agents, fruit exporters, secondary wholesalers/provedores, supermarkets and other retailers.

In response to an open-ended question, good quality fruit, a competitive price and good relationship were the most frequently cited responses by all fruit buyers (Table 8.17).

Table 8.17: Criteria used by each downstream customers in deciding from whom they will purchase the produce

Criteria	Frequency					
	FP	**MA**	**W/S**	**SM**	**R**	**FE**
Quality	6	2	6	1	19	3
Good relationships	3	2	2		8	4
Price	3	2	4		15	3
Able to supply quantity	3	1		1		
Reputation	2	1	1		3	
Consistent supply/availability	1	1			3	
Regular supplier	1					
QA system	1	1				
Fruit safety	1					
Trust					1	1
Regular supplier		2	2		1	
Co-op during shortage		1				
Can give profit		1				
Good storage			1		2	
Service					4	
Presentation					2	
Fresh					2	
Our own apple					1	
Taste					1	
N	**8**	**6**	**8**	**2**	**25**	**4**

For the fruit packers, additional criteria included a sufficient quantity, consistent supply, the supplier's reputation and the presence of a quality assurance system.

Market agents preferred to transact with regular suppliers, who were well known to them and who could supply reliably and consistently. A quality assurance system was advantageous for it enabled the fruit to be sold to a greater number of downstream customers. The secondary wholesalers and provedores also preferred to transact with regular suppliers who were well known to them and who delivered fruit with an acceptable shelf life. The supermarkets were concerned only with the quality and quantity as

the key criteria when deciding from whom they would purchase fresh fruit.

Retailers were perhaps the most demanding buyers, for not only was the supplier's reputation important, but they were also expected to offer a superior service. Fruit had to be fresh, of good appearance, to have a good shelf life and good taste. Not unlike the earlier findings of Korneliussen and Gronhaug (2003), retailers placed more importance on the technical quality of the fruit than the functional quality.

Given the immense variation in the quality and shelf life of the fruit between growers and alternative suppliers, it comes as no surprise to find that personal relationships were highly valued. If market intermediaries have a good relationship with their upstream suppliers, there is a greater likelihood that the quality of the fruit supplied will meet their perceived needs.

In determining what the customers wanted from their preferred supplier, further analysis was undertaken to determine how important 19 selected criteria were in the customer's decision to purchase (Table 8.18).

For the fruit packers, fruit that was well graded and appropriately packed was of little importance, for indeed, these are the services that the fruit packer provided to small growers. Similarly, an individually labelled apple was not an important criteria. Nor for that matter was deferred payment and a wide range of fresh fruit, for the fruit packers often only handled a limited number of product lines.

Table 8.18: Criteria customers used when choosing alternative suppliers

Criteria	FP	MA	WS	SM	R	FE
	Mean	Mean	Mean	Mean	Mean	Mean
Free of pests and disease	6.00	5. 83	5. 88	6.00	5. 88	3.75
Delivering good quality apples	5.88	5.50	6.00	5.00	5.96	5.25
Free of physical injury	5.88	4.50	6.00	5.50	5.92	4.50
Competitively priced	5.63	4.33	5.63	4.50	5.72	4.50
Free of chemical residues	5.62	5.67	5.63	5.50	5.76	4.50
Good looking	5.50	5.17	5.63	4.50	5.92	5.50
Deliver apples when required	5.38	5.83	5.88	5.50	5.92	4.75
Desired variety	5.38	5.17	5.50	5.50	5.76	4.25
Right maturity	5.25	5.50	5.88	5.50	5.96	4.25
Meet their immediate needs	5.25	4.50	6.00	3.50	5.72	4.75
Desired size(s)	5.00	5.33	5.13	5.50	5.28	3.25
Store well	4.88	5.67	6.00	4.50	5.92	4.25
Quantities required	4.88	5.17	5.25	5.00	5.68	4.25
Quality assurance program	4.63	4.33	5.38	5.00	5.44	3.75
Well graded	3.75	6.00	5.38	5.00	5.36	5.75
Appropriately packed	3.50	5.67	4.63	5.00	4.44	5.50
Individually labelled	3.13	3.17	4.25	4.00	4.28	3.75
Give credit (deferred payment)	3.13	1.67	3.25	2.00	2.76	1.50
Wide range of fresh fruits	2.63	3.00	5.50	2.00	5.24	1.75
N	**8**	**6**	**8**	**2**	**25**	**4**

where 1.0 is not at all important and 6.0 is very important

For the market agents, fruit had to be well graded and appropriately packed in order to meet the needs of the next downstream customer. Not all fruit had to be labelled, for indeed, several customers preferred the fruit to be unlabelled. For the market agents, as most were specialist wholesalers, it was not necessary to carry the entire range of fresh fruit and vegetables. Secondary wholesalers and provedores on the other hand expected their suppliers to offer a full range of fresh fruit and vegetables. Deferred payment was the least important consideration.

For the supermarkets, the small number of respondents made it impossible to perform any meaningful statistical analysis. Not unexpectedly, the supermarkets expected their suppliers to deliver fruit of the desired quality, in the desired quantities and fruit that was

competitively priced. For the supermarkets, the least important factors in choosing their preferred supplier was the ability to offer a wide range of fresh fruit and to extend credit. Such would suggest that the supermarkets in WA purchased fresh fruit from a number of alternative suppliers, rather than to rely on only one major supplier or category manager. In WA, it was the supermarket who welded the majority of the power in the transaction. Suppliers had to accept the supermarkets trading terms: payment after 90 days, rather than to expect the supermarkets to extend credit to suppliers.

Small independent retailers were less concerned about the need for the fruit to be labelled or appropriately packed. This was largely because the business was owned and operated by the family and/or checkout staff were more appropriately trained and could differentiate between different varieties. Small independent retailers could also accommodate more readily the returnable plastic crates and to afford to pay the deposit for their use, because they purchased in much smaller quantities than supermarkets.

For fruit exporters, a wide range of fresh fruit and the need to extend credit were the two least important criteria in their decision to buy from alternative fruit suppliers.

8.4.1 Grower's perception of what they think downstream customers want

Growers thought that the most important factors that influenced their downstream customer's choice of supplier were quality (72%), followed by price (30%) and continuity of supply (14%) (Table 8.19).

Table 8.19: Criteria growers think important in their customer's decision to purchase apples from them

Response	Frequency	Percent
Quality	36	72
Price	15	30
Continuity of supply	7	14
Presentation	4	8
Consistency	3	6
Enough fruit	3	6
Past history	2	4
Personal/business relationships	2	4
Right varieties	1	2
N = 50		

The least frequently cited variables by growers were past history or reputation (4%), a personal or business relationship (4%) and the right varieties (2%).

Besides the open ended question, growers were asked to rate how important they believed each of the following were to their customers in their decision to choose preferred suppliers. The first six criteria chosen by the growers indicated that quality was perceived to be the most important criteria in their customer's choice of preferred supplier (Table 8.20).

Table 8.20: Grower's perception on their customer's criteria in choosing alternative growers

Factors	Mean	SD
Free of physical injury	5.60	1.030
Delivering good quality apples	5.52	0.909
Free of pests and disease	5.48	0.931
Free of chemical residues	5.38	1.048
Right maturity	5.36	0.921
Good looking	5.28	1.213
Competitively priced	5.14	1.088
Store well	5.12	1.350
Desired variety	5.04	1.212
Deliver apples when required	5.02	1.204
Meet their immediate needs	4.92	1.104
Quantities required	4.86	1.340
Desired size(s)	4.80	1.161
Quality assurance program	4.72	1.666
Well graded	4.36	1.893
Appropriately packed	4.36	1.893
Give credit (deferred payment)	4.04	1.384
Wide range of fresh fruits	3.74	1.712
Individually labelled	3.30	1.799
N = 50		

where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

Price and the ability of the growers to store the fruit in order to ensure its freshness were also perceived to be important by the growers. The least important criteria indicated by the growers included offering a wide range of fresh fruit and individually labelled apples.

Besides looking at what growers thought was important in their customer's decision to purchase apples from them, growers were asked to self evaluate what stopped or prevented them from meeting their perceived market intermediary's needs during each transaction (Table 8.21).

Table 8.21: Things that prevented or stopped growers from meeting downstream customers' needs

Criteria	Frequency					
	FP	**MA**	**W/S**	**SM**	**R**	**FE**
Size	2	1	6	1		3
Can pack ourselves	1	2	2			4
Seasonal variation	2	1	4			3
Able to supply quantity	3	6			2	
Price		1			3	
Other outlets		1				
Unable to work on short notice		3				
Cost		3			2	
Quality					3	
Time					1	
N	**6**	**10**	**6**	**1**	**6**	**5**

For those growers transacting with fruit packers, the inability to supply a sufficient quantity of fruit was perceived to be the major impediment. Seasonal variations, for apples are biennial bearing, impacted on both the quantity of fruit available and the size of the fruit. For the market agents, the inability of the growers to supply sufficient quantities of fruit was once again cited as the major impediment. Furthermore, growers cited problems in producing apples at prices the market agents wanted to pay. High costs impacted directly on grower's profitability. With only small volumes of fruit available, growers were unable to respond to the market agent's request.

Things that prevented growers from meeting the secondary wholesalers and provedores needs included size, seasonal variations and the ability of the growers to pack the apples for them. As secondary wholesalers and provedores normally supplied fruit to restaurants or institutional organisations like hospital, they normally required a certain size or variety for their customers. For supermarkets, size was indicated as the main

thing that stopped growers from meeting the supermarket's needs. As supermarkets normally have their own specifications, it was hard for growers to fulfil the supermarkets needs in terms of the size required because growers had to sell all of their fruit.

For the retailers, price and quality were indicated by the growers as the main things that stopped them from meeting the retailer's needs. For the small green grocers, they were perceived as requiring fruit that was competitively priced while at the same time it offering superior quality to their end customers.

The ability of the growers to pack the fruit themselves was the main thing that stopped growers from meeting fruit exporter's needs. This is because some of the growers that sell apples to fruit exporters are small scale growers that do not have their own packing facilities. Besides that, the size and variety needed by fruit exporters were also identified by the growers as a major impediment.

8.4.2 Customer's perceptions of what they want and what they get from their preferred grower and other supplier

To gain a better understanding of what customers want and what customers actually get from their suppliers, the paired sample t-test was applied to examine any significant differences between what the downstream customers want and what they actually received from their preferred growers. To compare what customers got from their preferred growers compared to other suppliers, the independent sample t-test or ANOVA was used, depending on the number of relationships that the customer had with alternative suppliers.

8.4.2.1 Fruit packers

For the fruit packers, growers were their only suppliers thus, no further analysis was undertaken in comparing their offer quality with other potential suppliers.

In examining the offer quality between what fruit packers desired and what they received from preferred growers, there were some significant differences (Table 8.22).

Table 8.22: What fruit packers want and get from their preferred grower

Factors	FP wants[1]		FP gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Free of pests and disease	**6.00**	**.535**	**5.38**	**.518**	**3.42**	**.011**
Delivering good quality apples	**5.88**	**.354**	**4.63**	**.744**	**3.99**	**.005**
Free of physical injury	**5.88**	**.354**	**4.50**	**.535**	**7.51**	**.000**
Free of chemical residues	5.63	.518	5.25	.463	2.05	.080
Competitively priced	**5.63**	**.744**	**4.38**	**.916**	**2.76**	**.028**
Deliver apples when required	**5.38**	**.518**	**4.63**	**.518**	**3.00**	**.020**
Desired variety	**5.38**	**.744**	**4.38**	**.518**	**3.74**	**.007**
Good looking	5.50	.535	4.75	.707	2.05	.080
Right maturity	5.25	.463	4.88	.354	2.05	.080
Meet their immediate needs	5.25	.707	4.63	.744	1.93	.095
Desired size(s)	**5.00**	**.756**	**4.50**	**.000**	**2.65**	**.033**
Quantities required	4.88	1.126	4.38	1.598	1.32	.227
Store well	**4.88**	**.641**	**3.75**	**.707**	**4.97**	**.002**
Quality assurance program	**4.63**	**.518**	**5.25**	**.463**	**-3.42**	**.011**
Well graded	**3.75**	**.707**	**2.63**	**1.188**	**4.97**	**.002**
Appropriately packed	**3.50**	**.756**	**2.50**	**1.195**	**5.29**	**.001**
Give credit (deferred payment)	3.13	.835	3.50	.535	-1.43	.197
Individually labelled	3.13	.641	2.50	1.195	1.93	.095
Wide range of fresh fruits	2.63	.518	2.63	.518	.000	1.000
N = 8						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p = 0.05

Most fruit packers were dissatisfied with the high incidence of pests and disease, physical injuries and the amount of leaf litter and rubbish present in the fruit. Thus, in terms of the technical quality of the fruit which included freedom from pest and disease, freedom from physical injury and consistent quality fruit, fruit packers did not always receive what they expected from their preferred growers.

Generally, the prices at which smallholder growers wanted to sell their fruit to fruit packers was non competitive. In part, this was due to growers expecting too much for their fruit. However, in the absence of any economies of scale, fruit purchased from smallholders will by necessity proof to be more expensive. Fruit packers were also dissatisfied with the ability of their preferred growers to deliver apples when needed of the desired variety and size.

While growers did not store their fruit for any extended period of time, fruit which has not been handled correctly will have a poor shelf life. Bulk bins may have been left in the sun which subsequently affected the quality of the fruit during storage. However, in terms of any quality assurance program, growers generally exceeded the fruit packer's expectations.

8.4.2.2 Market agents

Generally, the market agents were more satisfied with more aspects of the offer quality presented by their preferred growers. Growers were generally able to deliver apples that were well graded, substantially free of pests and diseases, appropriately packed and individually labelled. However, growers were generally unable to deliver fruit when it was required by the market agent (Table 8.23).

Table 8.23: What market agents want and get from their preferred grower

Factors	MA wants[1]		MA gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Well graded	6.00	0.00	5.50	0.55	2.24	0.076
Free of pests and disease	5.83	0.41	5.17	0.75	1.58	0.175
Deliver apples when required	**5.83**	**0.41**	**4.17**	**0.75**	**3.95**	**0.011**
Store well	5.67	0.52	5.33	0.82	0.79	0.465
Free of chemical residues	5.67	0.52	5.17	0.75	1.46	0.203
Appropriately packed	5.67	0.52	4.83	1.17	1.75	0.141
Delivering good quality apples	5.50	0.55	5.00	0.63	1.46	0.203
Right maturity	5.50	0.55	5.00	0.63	2.24	0.076
Desired size(s)	5.33	0.82	4.50	0.84	2.08	0.093
Good looking	5.17	0.75	5.00	0.63	0.42	0.695
Quantities required	5.17	0.75	4.83	0.75	0.67	0.530
Desired variety	5.17	0.75	4.67	1.03	0.89	0.415
Free of physical injury	4.50	1.05	4.83	0.75	-1.58	0.175
Meet their immediate needs	4.50	1.05	4.17	0.75	0.79	0.465
Quality assurance program	4.33	1.21	4.33	1.63	0.00	1.000
Competitively priced	4.33	1.37	3.50	1.38	0.82	0.448
Individually labelled	**3.17**	**0.41**	**4.17**	**0.75**	**-3.87**	**0.012**
Wide range of fresh fruits	3.00	1.79	3.00	1.27	0.00	1.000
Give credit (deferred payment)	**1.67**	**0.82**	**4.33**	**1.21**	**-5.39**	**0.003**
N = 6						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p=0.05

While the gap between market agents and growers proved to be non significant for the majority of issues, some improvement is nevertheless required to enhance long-term relationships. While growers still need to improve the technical quality of their product offer, in this case, it was the functional quality (delivery) that was the biggest problem faced by the market agents.

In comparing the gap between what market agents got from their preferred grower and what they got from other market agents, there were some significant differences (Table 8.24).

Table 8.24: What market agents get from their preferred grower compared to preferred other market agent

Factors	MA get from G	MA get from other MA	p
Desired variety	4.67	5.33	0.721
Quantities required	**4.83**	**3.67**	**0.040**
Desired size(s)	4.50	4.17	0.120
Free of pests and disease	5.17	5.17	0.086
Free of physical injury	4.83	5.17	0.235
Free of chemical residues	5.17	5.17	0.209
Right maturity	5.00	5.00	0.174
Well graded	5.50	5.67	0.175
Appropriately packed	4.83	5.67	1.000
Individually labelled	**4.17**	**5.50**	**0.000**
Store well	5.33	5.00	0.145
Good looking	5.00	4.83	0.461
Quality assurance program	4.33	5.33	0.124
Deliver apples when required	**4.17**	**3.83**	**0.003**
Meet their immediate needs	4.17	4.00	0.438
Competitively priced	3.50	4.50	0.817
Delivering good quality apples	5.00	5.00	0.341
Credit (deferred payment)	4.33	2.33	0.461
Wide range of fresh fruits	3.00	3.67	0.501
N	**6**	**6**	

where 1.0 is not at all well and 6.0 is very well
those values with the same superscript are not significantly different at p=0.05

Market agents indicated that they could get a greater quantity of apples from their preferred growers rather than from other market agents. Furthermore, growers were more likely to deliver apples when the market agent required them. Not unexpectedly, market agents will transact with other market agents only when they are unable to fill orders. Hence, the ability of one market agent to meet the needs of another market agent will depend on how much fruit they have on hand.

However, other market agents were generally better able to deliver fruit that was labelled, suggesting that many smallholder growers do not have the capacity to label their fruit. According to Sadler (1997), labelling makes the selling process easier, but labels are not always an indicator of superior quality.

8.4.2.3 Secondary wholesalers/provedores

Secondary wholesalers/provedores purchase the majority of their produce from the Perth Metropolitan Market through the market agents. During the data collection process, although several growers indicated that they supplied secondary wholesalers and provedores, no secondary wholesalers/provedores were willing to admit that they transacted directly with growers and thus, no further analysis could be undertaken.

8.4.2.4 Supermarkets

In this study, it was recognised that supermarkets purchase their fresh fruit from growers, fruit packers and market agents. However, due to the limitations of the data between supermarkets and fruit packers (for only one supermarket transacted with a fruit packer), the analysis of the offer quality between them had to be excluded.

In general, supermarkets were very satisfied with the offer quality they received from their preferred growers (Table 8.25).

Recognising that the growers who are dealing with the supermarkets are generally the larger growers, they were able to deliver apples when required and to meet the supermarket's immediate needs by supplying apples in the quantities required. The larger growers were also capable of

delivering apples with the desired maturity that were good looking and free from chemical residues.

Table 8.25: What supermarkets want and get from their preferred grower

Factors	SMKT wants[1]		SMKT gets[2]	
	Mean	**SD**	**Mean**	**SD**
Free of pests and disease	6.00	.000	5.00	1.414
Desired variety	5.50	.707	4.50	.707
Desired size(s)	5.50	.707	4.50	.707
Deliver apples when required	5.50	.707	6.00	.000
Free of physical injury	5.50	.707	5.00	.000
Free of chemical residues	5.50	.707	5.50	.707
Right maturity	5.50	.707	5.50	.707
Well graded	5.00	.000	4.00	.000
Appropriately packed	5.00	.000	3.50	.707
Quality assurance program	5.00	1.414	5.50	.707
Quantities required	5.00	1.414	6.00	.000
Delivering good quality apples	5.00	.000	5.00	.000
Store well	4.50	.707	5.00	.000
Good looking	4.50	.707	5.00	.000
Competitively priced	4.50	.707	4.00	.000
Individually labelled	4.00	.000	3.00	.000
Meet their immediate needs	3.50	.707	5.00	.000
Give credit (deferred payment)	2.00	1.414	3.00	.000
Wide range of fresh fruits	2.00	1.414	3.00	.000
N = 2				

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p = 0.05
(a):The correlation and t cannot be computed because the standard error of the difference is 0.

However, growers were often unable to deliver apples of the desired variety, size and fruit that were free of pests and diseases and physical injury. Supermarkets also indicated that the fruit they received from growers was not always competitively priced, as supermarkets believed they should be entitled to a bigger discount because of the larger volume that they purchased.

To determine the extent to which supermarkets were able to get a better offer quality from alternative suppliers, further analysis were undertaken. Since there was only one relationship recorded between a supermarket and a fruit packer, this analysis was excluded.

Despite the limitation of the small sample size, it was apparent that supermarkets were getting better offer quality from their preferred growers rather than their preferred market agents (Table 8.26)

Table 8.26: What supermarkets get from their preferred grower compared to preferred market agent

Factors	S get from G	S get from MA
Desired variety	4.50	4.50
Quantities required	6.00	4.50
Desired size(s)	4.50	4.50
Free of pests and disease	5.00	5.50
Free of physical injury	5.00	5.00
Free of chemical residues	5.50	5.00
Right maturity	5.50	4.00
Well graded	4.00	4.00
Appropriately packed	3.50	3.50
Individually labelled	3.00	4.00
Store well	5.00	4.00
Good looking	5.00	5.00
Quality assurance program	5.50	4.50
Deliver apples when required	6.00	5.00
Meet their immediate needs	5.00	5.00
Competitively priced	4.00	4.50
Delivering good quality apples	5.00	4.50
Credit (deferred payment)	3.00	3.00
Wide range of fresh fruits	3.00	4.00
N	**2**	**2**

where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

Growers were more capable of supplying apples to the supermarkets in the quantities required, whenever the fruit was needed. Fruit that was received directly from the growers was of the desired maturity, it stored

well and was generally accompanied by a quality assurance program. However, market agents were perceived to be more capable of delivering fruit that was free of pests and diseases, individually labelled and more competitively priced.

8.4.2.5 Retailers

In examining the gap between what retailers wanted and retailers received from their preferred suppliers, it was found that retailers transacted with growers, fruit packers, market agents and retail cooperatives (FAL). However, as only one retailer purchased apples direct from a fruit packer, this relationship was excluded from further analysis.

In examining the offer quality gap between what retailers wanted and retailers received from their preferred grower, most retailers were relatively satisfied with the offer quality received from their preferred growers (Table 8.27).

Retailers indicated that growers were able to provide them with apples that were well graded, appropriately packed and free of chemical residues. Furthermore, growers were able to deliver sufficient quantities of fruit and most often to support their offer quality through a quality assurance program. Nevertheless, some improvement was still required to enhance the quality of the fruit itself (freedom from pest and diseases, physical injury and maturity), to provide fruit of the desired size and variety, and to provide fruit that was competitively priced.

Table 8.27: What retailers want and get from their preferred grower

Factors	RT wants[1]		RT gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Deliver apples when required	6.00	0.00	5.80	0.45	1.00	0.374
Right maturity	6.00	0.00	5.80	0.45	1.00	0.374
Meet their immediate needs	6.00	0.00	5.60	0.55	1.63	0.178
Delivering good quality apples	6.00	0.00	5.60	0.55	1.63	0.178
Free of physical injury	6.00	0.00	5.60	0.55	1.63	0.178
Store well	6.00	0.00	5.60	0.55	1.63	0.178
Competitively priced	6.00	0.00	5.00	1.00	2.24	0.089
Quantities required	6.00	0.00	6.00	0.00	-	(a)
Free of pests and disease	5.80	0.45	5.60	0.89	0.41	0.704
Good looking	5.80	0.45	5.60	0.55	1.00	0.374
Desired variety	5.80	0.45	5.40	0.89	1.63	0.178
Quality assurance program	5.60	0.55	5.80	0.45	-1.00	0.374
Desired size(s)	5.60	0.89	5.00	1.00	1.50	0.208
Free of chemical residues	5.20	1.30	5.20	1.30	0.00	1.000
Well graded	5.00	1.41	5.20	1.10	-1.00	0.374
Wide range of fresh fruits	5.00	1.41	3.60	1.34	2.06	0.108
Appropriately packed	4.60	1.52	5.00	1.41	-1.63	0.178
Individually labelled	3.40	2.07	3.00	1.87	0.59	0.587
Give credit (deferred payment)	2.00	1.00	3.40	1.67	-1.87	0.135
N = 5						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p = 0.05
(a):The correlation and t cannot be computed because the standard error of the difference is 0.

A further examination of the alternative offers retailers received from other suppliers was undertaken using one way ANOVA. Although there are significant differences observed in the offer quality received between alternative suppliers, it is highly probable that the small sample size may obscure other potential differences (Table 8.28).

Table 8.28: What retailers get from their preferred grower compared to preferred market agent and FAL

Factors	R get from G	R get from MA	R get from FAL
Desired variety	5.33[a]	5.71[a]	5.50[a]
Quantities required	5.83[a]	5.82[a]	6.00[a]
Desired size(s)	5.00[a]	5.59[a]	5.50[a]
Free of pests and disease	5.67[a]	5.65[a]	5.50[a]
Free of physical injury	5.33[a]	5.00[a]	5.00[a]
Free of chemical residues	5.17[a]	5.82[a]	5.50[a]
Right maturity	5.83[a]	5.47[a]	5.25[a]
Well graded	5.17[a]	5.71[a]	5.75[a]
Appropriately packed	5.00[a]	4.98[a]	5.50[a]
Individually labelled	**3.17[b]**	**4.88[a]**	**5.25[a]**
Store well	5.67[a]	5.65[a]	5.25[a]
Good looking	**5.67[a]**	**5.12[ab]**	**4.75[b]**
Quality assurance program	5.67[a]	5.71[a]	5.50[a]
Deliver apples when required	**5.83[a]**	**5.29[a]**	**4.00[b]**
Meet their immediate needs	**5.33[a]**	**5.06[ab]**	**4.00[b]**
Competitively priced	4.83[a]	5.06[a]	4.50[a]
Delivering good quality apples	5.50[a]	5.53[a]	5.25[a]
Credit (deferred payment)	3.33[a]	2.82[a]	2.50[a]
Wide range of fresh fruits	**3.83[b]**	**4.82[ab]**	**5.75[a]**
N	**6**	**17**	**4**

where 1.0 is not at all well and 6.0 is well
those values with the bolded figures represent significance at p = 0.05

Most retailers indicated that FAL could provide fruit with individual labels better than their preferred market agent and/or grower. However, FAL were unable to provide good looking fruit. While FAL were able to offer a wider range of fresh fruit, they were less able to deliver apples when the retailer required them and less able to meet the retailer's immediate needs. Conversely, growers were the most capable of delivering fruit when the retailers required it and of meeting the retailer's immediate needs.

8.4.2.6 Fruit exporters

In examining the fruit exporter's offer quality requirements and the capabilities of their preferred growers to deliver, fruit exporters were generally satisfied with the offer quality presented by their preferred growers (Table 8.29).

Table 8.29: What fruit exporters want and get from their preferred grower

Factors	FE wants[1]		FE gets[2]		t	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Well graded	5.75	0.50	4.50	1.00	2.61	0.080
Good looking	5.50	0.58	4.75	1.26	1.57	0.215
Appropriately packed	**5.50**	**0.58**	**4.25**	**0.50**	**5.00**	**0.015**
Delivering good quality apples	5.25	0.50	5.00	0.82	0.40	0.718
Meet their immediate needs	4.75	0.50	4.50	0.58	1.00	0.391
Deliver apples when required	4.75	0.50	4.25	0.50	1.73	0.182
Free of chemical residues	4.50	1.00	5.25	0.50	-1.57	0.215
Free of physical injury	4.50	1.73	4.50	1.00	0.00	1.000
Competitively priced	4.50	1.29	3.75	0.96	3.00	0.058
Desired variety	4.25	0.50	5.00	0.82	-3.00	0.058
Right maturity	4.25	0.96	4.75	0.50	-1.73	0.182
Store well	4.25	1.26	4.25	0.96	0.00	1.000
Quantities required	4.25	0.50	4.00	0.00	1.00	0.391
Free of pests and disease	3.75	1.50	4.50	1.00	-1.57	0.215
Quality assurance program	3.75	0.50	4.50	0.58	-3.00	0.058
Individually labelled	3.75	0.96	3.50	0.58	1.00	0.391
Desired size(s)	3.25	1.26	4.50	0.58	-1.67	0.194
Wide range of fresh fruits	1.75	0.96	2.00	0.00	-0.52	0.638
Give credit (deferred payment)	1.50	.058	2.00	0.00	-1.73	0.182
N = 4						

[1]where 1.0 is not at all important and 6.0 is very important
[2]where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p = 0.05

Most fruit exporters indicated that they were able to get fruit of the desired variety, size and maturity. The apples were substantially free from

pests and diseases and physical injuries. For export, apples also needed to be substantially free of chemical residues. However, there was some doubt as to whether growers were able to deliver fruit that was appropriately packaged and fruit that was competitively priced.

Given the extra distance that the fruit had to travel to reach the export market, with the additional handling and the higher humidity (in Asia), substantially heavier cartons were required to protect the fruit. Not unexpectedly, these cartons were substantially more expensive. Thus, fruit packed for the domestic market and fruit that was packed for the international market were not necessarily interchangeable. There was also some doubt about apple growers in WA being able to provide fruit that was cost competitive in the international market.

In order to determine any differences between what growers could offer compared to fruit packers, further analysis using the independent sample t-test was undertaken. Due presumably to the small sample size, there were no significant differences between the offer quality the fruit exporter received from both their preferred growers and fruit packers (Table 8.30).

Nevertheless, and perhaps not unexpectedly, the offer quality fruit exporters received from fruit packers was generally better than that received from smallholder growers. Not only were the technical and functional qualities of the fruit packers better than that offered by the smallholder growers, but the economies of scale enabled the larger growers to price their offer more competitively.

Table 8.30: What fruit exporters get from their preferred grower compared to preferred fruit packer?

Factors	FE get from G	FE get from FP	p
Desired variety	5.00	5.33	0.576
Quantities required	4.00	4.67	0.423
Desired size(s)	4.50	4.67	0.721
Free of pests and disease	4.50	4.33	0.876
Free of physical injury	4.50	5.00	0.646
Free of chemical residues	5.25	5.00	0.437
Right maturity	4.75	4.67	0.846
Well graded	4.50	5.00	0.542
Appropriately packed	4.25	4.67	0.352
Individually labelled	3.50	3.67	0.721
Store well	4.25	4.33	0.900
Good looking	4.75	4.67	0.921
Quality assurance program	4.50	4.33	0.809
Deliver apples when required	4.25	5.00	0.243
Meet their immediate needs	4.50	4.00	0.437
Competitively priced	3.75	4.33	0.398
Delivering good quality apples	5.00	5.00	1.000
Credit (deferred payment)	2.00	2.33	0.423
Wide range of fresh fruits	2.00	2.67	0.635
N	**4**	**3**	

where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures significantly different at p = 0.05

8.5 Segmenting grower's offer quality based on cluster groups

To see if there were any differences between the cluster groups and who the growers transacted with, a simple cross tabulation was performed (Table 8.31).

It was no surprise to find that while three growers from Cluster One (larger growers) supplied their fruit to supermarkets, no growers from Cluster Two were dealing with the supermarkets as the smallholder growers did not have the ability to supply in sufficient quantities, reliably and continuously.

Table 8.31: Grower's supply to the buyers based on cluster

Buyers	Growers/Sellers	
	Cluster 1 (N=6)	Cluster 2 (N=43)
Fruit packers	-	14
Market agents	5	17
Secondary wholesalers/ Provedores	-	2
Supermarkets	3	-
Retailers	-	10
Fruit exporters	1	15
Total	**9**	**58**

Furthermore, larger scale growers from Cluster One did not supply their fruit to fruit packers as they had their own facilities to pack and grade their fruit. As expected, most small scale growers were supplying their fruit to fruit packers, market agents and fruit exporters.

In examining the extent to which small scale and large scale growers were more or less satisfied in their transactions with downstream market intermediaries, the independent t-test was employed. It was immediately apparent that there were some significant differences in the customer's ability to meet the needs of large scale and small scale growers in terms of price and payment terms (Table 8.32).

Table 8.32: Grower's perception on the customer's ability to meet growers need based on cluster

Variables	Cluster means		P
	1	2	
Favourable payment terms	**6.00**	**5.44**	**0.000**
Take all my harvested fruit	5.83	5.70	0.501
Fair price	**5.83**	**5.09**	**0.005**
Close personal relationship	5.83	4.79	0.080
Provides technical information/advice	**5.83**	**4.35**	**0.000**
Frequent communication	5.80	5.05	0.185
Financially strong	5.67	5.28	0.271
Geographically close	**5.67**	**4.40**	**0.028**
Transport apples from my orchard	**5.67**	**4.37**	**0.027**
Good business reputation	2.50	3.47	0.203
Provides market information	2.00	2.44	0.540
Willing to meet my immediate needs	**1.83**	**3.47**	**0.017**
N	**6**	**43**	

where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

Larger scale growers indicated that their customers were better able to provide them with a fair price and more favourable terms of payment. Furthermore, larger scale growers also believed that their customers were better able to provide technical information or advice during their transactions and to transport fruit from their orchards. Conversely, the smaller scale growers believed that their downstream customers were more willing to meet their immediate needs.

From the analysis, it was evident that the large scale growers from Cluster One were more capable of meeting their downstream customer's needs, especially with regard to providing fruit of the desired maturity and fruit that looked good (Table 8.33).

Table 8.33: Growers perception on their ability to meet customers needs based on cluster

Variables	Cluster means		P
	1	2	
Desired variety	5.50	4.95	0.307
Quantities required	**5.50**	**4.74**	**0.026**
Desired size(s)	5.33	4.70	0.212
Free of pests and disease	5.83	5.42	0.315
Free of physical injury	6.00	5.53	0.309
Free of chemical residues	5.33	5.37	0.934
Right maturity	**6.00**	**5.26**	**0.000**
Well graded	5.33	4.19	0.168
Appropriately packed	**5.83**	**4.12**	**0.000**
Individually labelled	4.33	3.09	0.109
Store well	5.67	5.02	0.281
Good looking	**6.00**	**5.16**	**0.000**
Quality assurance program	**5.67**	**4.56**	**0.003**
Deliver apples when required	**5.83**	**4.88**	**0.001**
Meet their immediate needs	4.83	4.91	0.880
Competitively priced	5.83	5.02	0.089
Delivering good quality apples	5.83	5.47	0.362
Give credit (deferred payment)	4.67	3.88	0.190
Wide range of fresh fruits	4.67	3.56	0.136
N	**6**	**43**	

where 1.0 is not at all well and 6.0 is very well
those values with the bolded figures represent significance at p = 0.05

Furthermore, larger-scale growers were better able to provide quality assurance programs, more appropriate packing and to deliver apples when required by their customers. The larger scale growers were also more capable of supplying apples to their buyers in the quantities required. As most of the large scale growers had their own facilities to pack and store fruit, this will give them extra flexibility in meeting all their customers' needs.

8.6 Chapter summary and conclusion

Generally, growers perceived things differently from their downstream buyers. While downstream buyers normally look at the quality of the produce, growers were more concerned about the price received from their preferred buyers.

The results of the study suggest that what growers actually want from their downstream buyers and what they actually receive from their transactions with their preferred trading partner are different. Most of the growers indicated that they wanted a high price or the best returns from their transactions with their downstream buyers. However, at the same time, growers wanted to establish a long-term relationship as a means of reducing the risk and uncertainty associated with the exchange. Thus, both the economic and relational variables were found to be important criteria in the exchange process between growers and their preferred downstream buyers.

In comparing across the chains what growers can get from each of their preferred downstream buyers, based on the price offered, growers were most satisfied with the price offered by supermarkets and retailers. Both supermarkets and retailers were found to be the best in fulfilling the grower's need for a fair price. In terms of offer quality, fruit packers were most able to provide technical advice, market information and to transport the fruit from the grower's orchards. However, growers were not always able to get the price they desired for their fruit and hence, this was one reason for not dealing with those buyers.

In terms of the downstream buyers needs, most of the buyers indicated that they wanted good quality produce at a competitive price. At the same

time, they wanted to have a good relationship with their preferred suppliers. For most buyers, quality was the main criteria when choosing preferred suppliers because their end customers would usually go for a quality product.

The grower's perception of their downstream buyer's needs, and indeed, the criteria by which buyers evaluate alternative suppliers, were closely aligned. Quality and price were the main criteria in the market intermediary's choice of preferred trading partner. As growers and downstream buyers have similar perceptions, there will be few problems in the future and thus, there is little to stop them from continuing to transact in the future.

Due to the small sample size, the use of advanced statistical analyses cannot be employed in this study. However, the use of the independent t-test and paired sample t-test reveal some significant differences in terms of what the growers want and what they actually get from their downstream buyers. Furthermore, the cluster analysis has revealed that larger scale growers in the Western Australian apple industry are more capable of meeting customer's needs because of their ability to supply in volume and continuously.

CHAPTER 9

EXPLORING GROWER'S RELATIONSHIPS WITH THEIR PREFERRED TRADING PARTNERS IN THE WESTERN AUSTRALIAN APPLE SUPPLY CHAIN

9.1 Chapter outline

In this chapter, the relationships between growers and their preferred buyers in the Western Australian apple industry are examined. A comparative analysis was undertaken to compare the buyer's relationship with the growers and other market intermediaries in order to identify any significant differences in their relationship. Relationships are explored using the key dimensions of satisfaction, trust and commitment, in an atmosphere moderated by communication, dependence and power, the exchange partner's willingness to make relationship specific investments and opportunism.

9.2 Grower's relationships

In the fresh produce industry, because of the perishability of the product and the uncertainty associated with the quality and quantity of the produce available, transactions are increasingly being conducted on the basis of long-term relationships. In the apple supply chain, growers are responsible for not only producing good quality fruit, but in delivering the fruit to downstream market intermediaries consistently and reliably, in the volume required and at a competitive price. Traditionally, growers have consigned the majority of their fruit to the Perth Metropolitan Market where the produce was sold either by auction or private treaty to retailers and secondary wholesalers (Batt 2003b). However, with the emergence of

the large retail chains and the need to differentiate the product in the market, more growers are choosing to bypass the wholesale market agents and to supply their downstream customers directly.

While an extensive amount of literature has appeared in recent years identifying the factors impacting upon the establishment and maintenance of long-term buyer-seller relationships (Ford 1980; Dwyer *et al.* 1987; Wilson 1995), the greatest support has emerged for the key constructs of satisfaction, trust and commitment (Anderson and Narus 1990; Anderson and Weitz 1992; Han *et al.* 1993; Morgan and Hunt 1994). Using these three key constructs, the relationship between participants in the Western Australian apple industry will be explored in an atmosphere moderated by communication, power and dependence, the partner's willingness to make relationship specific investments and opportunism.

9.2.1 Grower's downstream relationship with buyers

Of the 50 growers who participated in the study, 14 growers (28%) had a relationship with fruit packers, 22 (44%) with market agents, 2 (4%) with secondary wholesalers/provedore, 3 (6%) with supermarkets, 10 (20%) with other retailers and 16 (32%) with fruit exporters (Table 9.1).

In determining the nature of the grower's relationships with their preferred buyers, the majority of growers (64%) indicated that they had a favourable relationship with preferred buyers except the supermarkets. Excellent, good, very good, fair, OK or fine were the most frequently cited responses. Most growers indicated that they had an excellent to very good relationship with their preferred fruit packer and market agent.

Table 9.1: Description of grower's relationship with their preferred buyers

Responses	G>FP	G>MA	G>WS	G>S	G>R	G>FE
Excellent	3	4	-	-	1	3
Good /Very good	6	10	1	-	3	3
Fair	2	2	-	1	1	-
OK/fine	1	2	1	-	4	2
Businesslike	1	3	-	1	1	2
Commercial	1	1	-	1	-	-
N = 50	**14**	**22**	**3**	**3**	**10**	**16**

Where; G is grower, FP is fruit packer, MA is market agent, W/S is secondary wholesaler/provedores, R is retailer and FE is fruit exporter

With regard to their satisfaction with the exchange, most growers indicated that they were very satisfied in their relationship with their preferred secondary wholesaler and least satisfied in their relationship with fruit exporters (Table 9.2).

There was a highly significant difference in the mutually agreed price at which fruit was purchased by their preferred fruit packers, market agents, secondary wholesalers, supermarkets, retailers and fruit exporters. Fruit exporters were perceived to pay significantly less for the produce purchased, despite the extra effort.

Otherwise, most growers were satisfied with the activities performed by their downstream market intermediaries and most felt that they had been adequately rewarded by their preferred trading partners. Growers believed that by transacting with market agents, retailers and supermarkets they could increase their sales revenue, but not so with the fruit exporters. The price fruit exporters were able to pay was influenced by the volatility of price in the international market, competitors offer quality and fluctuations in the exchange rate.

Table 9.2: Examining downstream relationships between grower and their preferred market intermediaries

Factors/Relationships	G>FP	G>MA	G>WS	G>S	G>R	G>FE
SATISFACTION						
I am satisfied with my transactions	4.86	5.00	5.00	5.00	4.60	4.29
Purchased my produce at a mutually agreed price	4.57	4.36	5.12	5.00	5.30	2.18
Satisfied with the price received	4.00	4.18	5.00	4.50	5.20	3.82
Increased sales revenue	4.79	3.95	5.50	4.50	4.60	3.53
Satisfied with the activities performed	4.29	4.91	5.00	4.00	4.30	3.71
Adequately rewarded	4.29	4.32	5.00	4.50	4.50	3.88
Treats me fairly and equitably	4.21	4.41	4.50	4.50	4.00	3.24
Mean	**4.43**	**4.45**	**5.00**	**4.29**	**4.64**	**3.51**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > FP demonstrates the grower's relationship with their preferred fruit packer
G > MA demonstrates the grower's relationship with their preferred market agent
G > WS demonstrates the grower's relationship with their preferred wholesaler
G > S demonstrates the grower's relationship with their preferred supermarket
G > R demonstrates the grower's relationship with their preferred retailer
G > FE demonstrates the grower's relationship with their preferred fruit exporter

For trust, there was some evidence to suggest that fruit exporters were the least likely to keep their promises, the less likely to always act in the grower's best interest and the less likely to be honest (Table 9.3). Furthermore, fruit exporters were the least likely to meet the growers expectations.

Growers also indicated that supermarkets were unlikely to keep their promises, which made the growers a little more sceptical about believing the information provided by the supermarkets during their exchange transactions.

Despite the lower levels of satisfaction and trust in their transactions with fruit exporters, it was evident that most growers were still committed to their preferred fruit exporters. Most growers indicated that despite the lower prices, the dishonesty and the failure of fruit exporters to act in their best interests, growers still expected to trade with fruit exporters in the foreseeable future. There is a commonly held view among apple growers that they need to undertake some export in order to reduce the volume of fruit available on the domestic market. If all the fruit were to be placed on the WA domestic market, prices would decline. In an effort therefore to hold the prices up, growers will sell a proportion of their fruit to the export market. However, as Australia is a high cost producer and is rapidly loosing market share to New Zealand and South Africa, more fruit is being consigned to markets in the Eastern States.

Table 9.3: Examining downstream relationships between grower and their preferred market intermediaries

Factors/Relationships	G>FP	G>MA	G>WS	G>S	G>R	G>FE
TRUST						
Trust preferred trading partner	4.79	4.45	4.50	5.00	3.60	3.18
Reputation for being fair	5.07	4.45	4.50	4.50	4.20	3.24
Always honest	4.50	4.27	4.50	4.00	4.60	2.12
Preferred trading partner meets expectations	4.71	4.86	5.00	4.00	4.80	3.35
Confidence in preferred trading partner	4.43	4.82	5.00	4.50	4.70	4.00
Trading partner always considers best interests	4.36	4.77	4.50	4.00	4.70	2.94
Always keeps promises	4.64	4.41	5.00	3.50	4.50	2.82
Believe information provided	4.29	4.36	4.50	3.50	4.50	3.65
Mean	**4.60**	**4.55**	**4.69**	**3.79**	**4.45**	**3.16**
COMMITMENT						
Expect to continue to trade with partner	4.64	4.73	5.50	5.00	4.30	4.65
Expect the relationship to continue	4.71	4.91	5.50	5.00	4.30	4.65
More cost effective to rely on my trading partner	4.29	4.50	4.50	5.00	5.00	4.41
Mean	**4.55**	**4.71**	**5.17**	**4.89**	**4.53**	**4.56**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > FP demonstrates the grower's relationship with their preferred fruit packer
G > MA demonstrates the grower's relationship with their preferred market agent
G > WS demonstrates the grower's relationship with their preferred wholesaler
G > S demonstrates the grower's relationship with their preferred supermarket
G > R demonstrates the grower's relationship with their preferred retailer
G > FE demonstrates the grower's relationship with their preferred fruit exporter

With regard to the level of communication within the exchange, it was evident that the supermarkets and the retailers were the least likely to advise the growers of the prevailing prices in the market (Table 9.4).

Similarly, retailers were the least likely to suggest to growers an appropriate means for improving the quality of their produce. In an effort to secure the growers business, market agents were the most likely to ask the grower how they could improve the quality of the service they offered. In part, this meant advising the grower when there were potential supply problems, thereby assuring the supply of fruit and thus their capacity to meet their downstream customer's requirements.

In examining the willingness of market intermediaries to make any relationship specific investments, it was immediately obvious that no market intermediaries were willing to share the risks or to provide growers with any financial assistance during difficult times.

Table 9.4: Examining downstream relationships between grower and their preferred market intermediaries

Factors/Relationships	G>FP	G>MA	G>WS	G>S	G>R	G>FE
COMMUNICATION						
Trading partner advises on market prices	4.86	4.36	4.00	1.00	1.90	3.59
Partner asks how they can improve quality of produce	3.79	3.82	3.00	4.00	2.80	3.71
Partner asks how they can improve quality of service	3.71	4.23	3.00	3.00	2.70	3.82
Trading partner advises of supply problems	4.79	4.82	4.00	3.50	3.60	4.29
Mean	**4.29**	**4.31**	**3.50**	**3.17**	**2.75**	**3.89**
RELATIONSHIP SPECIFIC INVESTMENT						
Willing to share the risk	2.00	1.64	1.50	1.00	1.90	1.12
Partner provides financial assistance	1.93	2.14	1.50	1.00	2.60	1.12
Mean	**1.96**	**1.89**	**1.50**	**1.00**	**2.25**	**1.13**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > FP demonstrates the grower's relationship with their preferred fruit packer
G > MA demonstrates the grower's relationship with their preferred market agent
G > WS demonstrates the grower's relationship with their preferred wholesaler
G > S demonstrates the grower's relationship with their preferred supermarket
G > R demonstrates the grower's relationship with their preferred retailer
G > FE demonstrates the grower's relationship with their preferred fruit exporter

In considering the extent to which growers were dependent on their downstream market intermediaries, most growers indicated that their preferred buyer made the best offer relative to the alternatives (Table 9.5).

With the exception of the supermarkets, and to a lesser extent, the fruit exporters, most growers indicated that they were free to choose another trading partner at any time. Not unexpectedly, those growers trading with the supermarkets were significantly more dependent, for in WA there are only three major supermarket chains. Basically, the supermarkets were observed to weld the majority of power in their relationships with the growers. On the other hand, the small independent retailers, fruit exporters, fruit packers and market agents had significantly less power and influence.

With the exception of the supermarkets, growers were able to obtain information from a multiple number of sources. Hence, retailers, market agents and fruit exporters had little or no control over the information growers received.

Both the supermarkets and the fruit exporters were perceived to act more opportunistically and to take advantage of the grower's weak position. As growers generally traded with more than one market agent (Batt 2003b), any opportunistic trading by market agents could be very quickly detected. Similarly, if retailers chose to behave opportunistically, since they accounted for only a small proportion of the grower's total sales, the growers could readily withhold supply.

Using the cluster groups developed before, no significant differences were found in the relationship variables between the two cluster groups. This would suggest that the economies of scale did not influence the grower's relationship with their downstream trading partners.

Table 9.5: Examining downstream relationships between grower and their preferred market intermediaries

Factors/Relationships	G>FP	G>MA	G>WS	G>S	G>R	G>FE
DEPENDENCE						
Free to choose another trading partner at any time	5.36	5.50	5.50	3.50	5.50	4.65
Has best offer relative to alternatives (CL_{alt})	4.43	4.77	5.00	4.00	4.80	4.65
Mean	**4.89**	**5.14**	**5.25**	**3.83**	**5.15**	**4.67**
POWER						
Trading partner has all the power	2.93	2.45	4.50	5.00	1.70	2.00
Trading partners controls all the information	3.36	2.50	3.50	4.00	2.10	2.82
Mean	**3.14**	**2.48**	**4.00**	**3.33**	**1.90**	**2.50**
OPPORTUNISM						
Trading partner often acts opportunistically	4.00	3.77	4.00	4.50	3.40	5.06
Mean	**4.00**	**3.77**	**4.00**	**4.50**	**3.40**	**5.06**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > FP demonstrates the grower's relationship with their preferred fruit packer
G > MA demonstrates the grower's relationship with their preferred market agent
G > WS demonstrates the grower's relationship with their preferred wholesaler
G > S demonstrates the grower's relationship with their preferred supermarket
G > R demonstrates the grower's relationship with their preferred retailer
G > FE demonstrates the grower's relationship with their preferred fruit exporter

9.2.2 Buyer's upstream relationship with growers

From the data collected, a number of relationships had been established between buyers and their upstream grower suppliers (Table 9.6).

Table 9.6: Description of buyer's relationship with their preferred grower

Responses	FP>G	MA>G	S>G	R>G	FE>G
Excellent	2	1	-	2	-
Good /Very good	3	2	-	4	4
Fair	-	-	-	-	-
OK/fine	2	2	-	-	-
Businesslike	1	-	1	1	-
Commercial	-	1	1	-	-
N	**8**	**6**	**2**	**7**	**4**

Where; G is grower, FP is fruit packer, MA is market agent, S is supermarket, R is retailer and FE is fruit exporter

Most of the buyers (48%) who participated in this study indicated that they had good to very good relationships with their preferred grower. However, some of the relationships were stated as businesslike and/or commercial.

In examining the buyer's relationship with their preferred growers, most of the buyers indicated that they were highly satisfied with their exchange transactions.

It was apparent that fruit packers and market agents were generally more satisfied in their relationship with growers than the fruit exporters, supermarkets and retailers (Table 9.7).

Table 9.7: Examining upstream relationships between buyers with their preferred grower

Factors/Relationships	FP>G	MA>G	FE>G	S>G	R>G
SATISFACTION					
I am satisfied with my transactions	5.50	5.33	4.75	4.50	5.40
Purchased my produce at a mutually agreed price	5.50	5.17	3.75	5.50	5.20
Satisfied with the price paid	5.50	5.67	4.25	4.50	5.00
Increased sales revenue	4.50	5.67	3.50	5.00	5.40
Satisfied with the activities performed	5.00	5.50	5.00	5.00	5.80
Adequately rewarded	5.50	5.00	4.25	4.50	5.40
Treats me fairly and equitably	5.50	5.50	4.75	4.50	5.20
MEAN	**5.29**	**5.40**	**4.32**	**4.79**	**4.32**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
FP > G demonstrates the fruit packer's relationship with their preferred grower
MA > G demonstrates the market agent's relationship with their preferred grower
S > G demonstrates the supermarket's relationship with their preferred grower
R > G demonstrates the retailer's relationship with their preferred grower
FE > G demonstrates the fruit exporter's relationship with their preferred grower

Conversely, fruit exporters were the least satisfied in their exchange transactions with growers. Fruit exporters were unable to purchase the fruit at a mutually agreed price, because Australian apples were generally more expensive than the fruit offered by competitors including New Zealand, South Africa and China. For the fruit exporters, the need to pay higher prices cut into their margin, reducing the potential sales revenue. Hence, fruit exporters perceived that they had not been adequately rewarded for the risks they endured.

The supermarkets, presumably through the exercise of their significant market power, were able to purchase fruit at a mutually agreed price; however, they too were less satisfied with the price they inevitably had to pay which cut into their profit margins.

For trust, there was some evidence to suggest that supermarkets found that their preferred growers were the least likely to keep their promises, less likely to act in their best interest and less likely to be honest (Table 9.8).

Table 9.8: Examining upstream relationships between buyers with their preferred grower

Factors/Relationships	FP>G	MA>G	FE>G	S>G	R>G
TRUST					
Trust preferred trading partner	5.50	5.67	5.00	4.50	5.40
Reputation for being fair	5.50	6.00	5.00	4.50	5.40
Always honest	5.00	5.50	4.75	4.00	5.00
Preferred trading partner meets expectations	5.50	5.50	4.75	5.00	5.20
Confidence in preferred trading partner	5.50	5.67	4.75	4.50	5.60
Trading partner always considers best interests	5.00	5.33	4.25	3.50	5.00
Always keeps promises	5.00	5.33	4.75	3.50	5.40
Believe information provided	5.50	5.83	4.50	4.50	5.20
MEAN	**5.31**	**5.60**	**4.72**	**4.25**	**5.28**
COMMITMENT					
Expect to continue to trade with partner	5.50	5.83	5.00	5.50	5.80
Expect the relationship to continue	5.50	5.67	5.00	5.50	5.80
More cost effective to rely on my trading partner	6.00	5.33	5.00	5.50	5.60
MEAN	**5.67**	**5.61**	**5.00**	**5.50**	**5.73**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
FP > G demonstrates the fruit packer's relationship with their preferred grower
MA > G demonstrates the market agent's relationship with their preferred grower
S > G demonstrates the supermarket's relationship with their preferred grower
R > G demonstrates the retailer's relationship with their preferred grower
FE > G demonstrates the fruit exporter's relationship with their preferred grower

Furthermore, the supermarkets were less inclined to believe the information provided by the growers and on the whole, considered the growers to have a poor reputation. Presumably this situation has arisen because growers are more inclined to sell fruit to other market intermediaries who were more willing to pay a higher price.

Conversely, market agents indicated a high degree of trust between themselves and their preferred growers. Market agents were the most willing to believe the information provided by growers and had the highest degree of confidence in their preferred trading partner. Most market agents believed that their preferred growers had a reputation for being fair.

Despite the low level of trust, the supermarket believed that it was more cost effective to rely on their preferred grower than to seek alternative suppliers. All market intermediaries indicated that they expected to continue their relationship with their preferred growers into the future and were committed to a long-term relationship.

In terms of communication between market intermediaries and their preferred grower, fruit exporters indicated that their relationships were problematic (Table 9.9).

Table 9.9: Examining upstream relationships between buyers with their preferred grower

Factors/Relationships	FP>G	MA>G	FE>G	S>G	R>G
COMMUNICATION					
Trading partner advises on market prices	3.50	3.50	2.75	3.50	4.20
Partner asks how they can improve quality of produce	5.00	5.33	2.50	4.00	4.40
Partner asks how they can improve quality of service	4.00	5.17	2.50	4.00	4.20
Trading partner advises of supply problems	5.50	4.83	4.25	4.00	4.60
MEAN	**4.50**	**4.71**	**3.00**	**3.88**	**4.35**
RELATIONSHIP SPECIFIC INVESTMENT					
Willing to share the risk	4.50	1.50	2.75	3.00	3.00
Partner provides financial assistance	1.00	1.67	1.25	1.00	2.40
MEAN	**2.75**	**1.58**	**2.00**	**2.00**	**2.60**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
FP > G demonstrates the fruit packer's relationship with their preferred grower
MA > G demonstrates the market agent's relationship with their preferred grower
S > G demonstrates the supermarket's relationship with their preferred grower
R > G demonstrates the retailer's relationship with their preferred grower
FE > G demonstrates the fruit exporter's relationship with their preferred grower

Growers were unwilling to discuss how they could improve the quality of the produce offered and/or to discuss how they might better service the fruit exporters. Supermarkets also indicated that they had a problem in terms of communication with their preferred grower. Most market intermediaries agreed that their preferred grower was unlikely to advise them on market prices. This should not come as any surprise, for the market intermediaries are more in touch with the market than the growers. However, in making their decision to sell, growers were expected to discuss the prices that alternative buyers have offered to secure their fruit.

In describing the relationship specific investments growers were willing to make with downstream buyers, it was apparent that while most growers were reluctant to provide any financial assistance during difficult times, many growers were willing to share the risk. In particular, fruit packers indicated that their preferred growers were most willing to share the risk. Risk sharing may take a number of forms, but presumably, growers were willing to defer payment until after the fruit had been graded and packed. In this way, growers were most likely to receive the maximum benefit, but where the fruit was small, of poor quality, blemished or damaged, growers returns could potentially be diminished.

In considering the extent to which market intermediaries were dependent on their preferred growers, it was evident that most market intermediaries were free to choose another trading partner at any time (Table 9.10).

Table 9.10: Examining upstream relationships between buyers with their preferred grower

Factors/Relationships	FP>G	MA>G	FE>G	S>G	R>G
DEPENDENCE					
Free to choose another trading partner at any time	4.50	3.50	4.25	4.50	5.40
Has best offer relative to alternatives (CL_{alt})	5.50	5.33	4.75	4.00	5.20
MEAN	**5.00**	**4.42**	**4.50**	**4.25**	**5.30**
POWER					
Trading partner has all the power	2.50	2.83	2.00	2.00	1.80
Trading partners controls all the information	2.00	1.83	2.25	1.50	1.80
MEAN	**2.25**	**2.33**	**2.13**	**1.75**	**1.80**
OPPORTUNISM					
Trading partner often acts opportunistically	2.50	3.33	3.75	3.50	2.80
MEAN	**2.50**	**3.33**	**3.75**	**3.50**	**2.80**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
FP > G demonstrates the fruit packer's relationship with their preferred grower
MA > G demonstrates the market agent's relationship with their preferred grower
S > G demonstrates the supermarket's relationship with their preferred grower
R > G demonstrates the retailer's relationship with their preferred grower
FE > G demonstrates the fruit exporter's relationship with their preferred grower

However, the market agents indicated that they were much less flexible and to a certain extent, were more dependent on their preferred trading partners. Over time, market agents had selected those growers who presented the best quality fruit, relative to the alternatives.

In examining the power relationship, as expected, all of the buyers indicated that their preferred grower had little to no power in the exchange transaction. As most market intermediaries conducted business with a number of growers, should any one grower attempt to coercively influence the buyer, they could be readily replaced. Not unexpectedly, the buyers had more knowledge of the market dynamics than the growers. Consequently, the growers had little to no control over market information.

Most of the market intermediaries indicated that their preferred grower seldom acted opportunistically during their exchange transactions. Presumably this was because the buyers could readily choose an alternative exchange partner and thus, if a grower was found to have taken unfair advantage of the buyer, the relationship could be readily discontinued.

9.3 Examining the relationships between growers and their preferred buyers

To identify the nature of the relationships between growers and apple buyers, the independent sample t-test was employed to identify any significant differences between the parties.

9.3.1 Relationships between growers and fruit packers

In examining the fruit packer's relationships with their preferred grower, most of the fruit packers indicated that they were very satisfied in their relationship with their preferred grower (Table 9.11).

Most fruit packers indicated that they are were very satisfied with the price at which they had secured the growers fruit and their discussions with the grower to arrive at the price. Most fruit packers agreed that they were being adequately rewarded and treated fairly and equitably in their transactions with their preferred grower.

Conversely, growers were generally less satisfied in their relationship with their preferred fruit packer. Growers were much less satisfied with the prices received. Most growers believed that they had not been treated fairly and equitably, nor had they been adequately rewarded for their efforts and the risks associated with growing apples.

In a similar manner, the majority of fruit packers trusted their preferred grower. As the majority of growers met the fruit packer's expectations, they had confidence that the growers would fulfil their promises. Trust led to a long-term commitment by the fruit packers to continue to transact with their preferred grower(s) in the future. Fruit packers recognised that it was more cost effective to rely on those growers who had a reputation for being fair.

Table 9.11: Examining relationships between growers and fruit packers

Factors/Relationships	G>FP	FP>G	p
SATISFACTION			
I am satisfied with my transactions	4.86	5.50	0.050
Sold/purchased produce at a mutually agreed price	**4.57**	**5.50**	**0.003**
Satisfied with the price received	**4.00**	**5.50**	**0.001**
Increased sales revenue	4.79	4.50	0.266
Satisfied with the activities performed	4.29	5.00	0.121
Adequately rewarded	**4.29**	**5.50**	**0.000**
Treats me fairly and equitably	**4.21**	**5.50**	**0.003**
TRUST			
Trust preferred trading partner	**4.79**	**5.50**	**0.037**
Reputation for being fair	5.07	5.50	0.163
Always honest	4.50	5.00	0.364
Preferred trading partner meets expectations	**4.71**	**5.50**	**0.002**
Confidence in preferred trading partner	**4.43**	**5.50**	**0.002**
Trading partner always considers best interests	4.36	5.00	0.228
Always keeps promises	4.64	5.00	0.481
Believe information provided	**4.29**	**5.50**	**0.001**
COMMITMENT			
Expect to continue to trade with partner	**4.64**	**5.50**	**0.028**
Expect the relationship to continue	4.71	5.50	0.083
More cost effective to rely on my trading partner	**4.29**	**6.00**	**0.000**
COMMUNICATION			
Trading partner advises on market prices	**4.86**	**3.50**	**0.049**
Partner asks how they can improve quality of produce	**3.79**	**5.00**	**0.010**
Partner asks how they can improve quality of service	3.71	4.00	0.218
Trading partner advises of supply problems	4.79	5.50	0.090
RELATIONSHIP SPECIFIC INVESTMENT			
Willing to share the risk	**2.00**	**4.50**	**0.003**
Partner provides financial assistance	**1.93**	**1.00**	**0.001**
DEPENDENCE			
Free to choose another trading partner at any time	5.36	5.50	0.535
Has best offer relative to alternatives (CL_{alt})	4.43	4.50	0.908
POWER			
Trading partner has all the power	2.93	2.50	0.507
Trading partners controls all the information	**3.36**	**2.00**	**0.024**
OPPORTUNISM			
Trading partner often acts opportunistically	**4.00**	**2.50**	**0.034**
N	**14**	**8**	**-**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > FP demonstrates the grower's relationship with their preferred fruit packer
FP > G demonstrates the fruit packer's relationship with their preferred grower

On the whole, growers were somewhat less trusting in their relationship with the fruit packers. Fruit packers did not always meet their expectations. As growers did not always believe the information provided

by fruit packers, the growers were less confident that the fruit packers would always act in their best interest. While the growers indicated that they expected to continue to transact with their preferred fruit packer, the low level of trust and satisfaction would suggest that the relationship would continue only until such time as the growers were able to find a better exchange partner.

Nevertheless, there was some evidence to suggest that growers were willing to improve or to enhance their relationship with fruit packers. Growers frequently asked the fruit packers how they might best improve the quality of their fruit. Furthermore, growers were more willing to share the risk by enabling the fruit packer to grade and pack the fruit before determining final payment. However, most smallholder growers were either unwilling or unable to extend any financial support to fruit packers.

With regard to the power-dependence construct, it was immediately obvious that this was a very symmetric relationship. Both parties could readily identify an alternative exchange partner and both partners had a similar amount of power in the transaction. However, not unexpectedly, since the fruit packer generally handled the marketing of the grower's fruit, they had more knowledge of the prevailing market prices.

9.3.2 Relationships between growers and market agents

In examining the relationships between growers and their preferred market agents, it was apparent that market agent's relationship with growers was quite positive (Table 9.12).

Table 9.12: Examining relationships between growers and market agents

Factors/Relationships	G>MA	MA>G	p
SATISFACTION			
I am satisfied with my transactions	5.00	5.33	0.238
Sold/purchased produce at a mutually agreed price	4.36	5.17	0.150
Satisfied with the price received	**4.18**	**5.67**	**0.001**
Increased sales revenue	**3.95**	**5.67**	**0.001**
Satisfied with the activities performed	**4.91**	**5.50**	**0.023**
Adequately rewarded	4.32	5.00	0.060
Treats me fairly and equitably	**4.41**	**5.50**	**0.004**
TRUST			
Trust preferred trading partner	**4.45**	**5.67**	**0.009**
Reputation for being fair	**4.45**	**6.00**	**0.000**
Always honest	**4.27**	**5.50**	**0.013**
Preferred trading partner meets expectations	4.86	5.50	0.072
Confidence in preferred trading partner	**4.82**	**5.67**	**0.008**
Trading partner always considers best interests	4.77	5.33	0.099
Always keeps promises	**4.41**	**5.33**	**0.041**
Believe information provided	**4.36**	**5.83**	**0.000**
COMMITMENT			
Expect to continue to trade with partner	**4.73**	**5.83**	**0.000**
Expect the relationship to continue	4.91	5.67	0.053
More cost effective to rely on my trading partner	4.50	5.33	0.119
COMMUNICATION			
Trading partner advises on market prices	4.36	3.50	0.261
Partner asks how they can improve quality of produce	**3.82**	**5.33**	**0.007**
Partner asks how they can improve quality of service	**4.23**	**5.17**	**0.038**
Trading partner advises of supply problems	4.82	4.83	0.970
RELATIONSHIP SPECIFIC INVETSMENT			
Willing to share the risk	1.64	1.50	0.714
Partner provides financial assistance	2.14	1.67	0.406
DEPENDENCE			
Free to choose another trading partner at any time	5.50	5.33	0.651
Has best offer relative to alternatives (CL_{alt})	**4.77**	**3.50**	**0.015**
POWER			
Trading partner has all the power	2.45	2.83	0.551
Trading partners controls all the information	2.50	1.83	0.118
OPPORTUNISM			
Trading partner often acts opportunistically	3.77	3.33	0.551
N	**22**	**6**	**-**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > MA demonstrates the grower's relationship with their preferred market agent
MA > G demonstrates the market agent's relationship with their preferred grower

Market agents showed high levels of satisfaction and trust in their relationship with their preferred grower. Most market agents were very satisfied with the price paid to their preferred grower, believing that they

had been adequately rewarded and treated fairly and equitably. Most market agents were satisfied with the activities performed by their preferred grower leading them to conclude that preferred growers often meet their expectations. Most market agents reported that their preferred grower had a reputation for being fair. As a result, most market agents perceived that their preferred grower was always honest and always kept their promises. This increased their confidence in their relationship with their preferred grower. As a result, most market agents were committed to their relationships and expected to continue to transact with their preferred grower.

Conversely, growers were generally less satisfied and less trusting of their preferred market agent. Most growers indicated that their preferred market agent did not always keep their promises, nor did they always believe the information provided by their preferred market agent. However, most growers believed that it was more cost effective to rely on their preferred market agent rather than to pursue an alternative relationship. As a result, most growers indicated a desire to continue their relationship with their preferred market agent.

Most market agents indicated that their preferred grower was willing to adapt their product offer and often asked how they could improve the quality of the produce or service offered. Most market agents believed that they were free to choose another supplier at any time as most conducted business with a number of apple growers. Furthermore, most market agents believed that their preferred grower did not control all the information during the transactions.

Conversely, most growers indicated that their preferred market agent seldom asked them how they might improve the level of service offered.

However, most growers indicated that their preferred market agent often provided advice on market prices and supply problems. Most growers also indicated that market agents were generally unwilling to share the risks or to provide any financial assistance. Thus, most growers believed that they were not dependent upon their preferred market agent and they were free to choose another trading partner at any time.

In examining the grower's relationship with their preferred market agent using the same cluster groups that had been developed earlier, there were no significant differences in the grower's relationship with market agents except for the perception by smallholder growers that market agents were more likely to act opportunistically during their transactions (Table 9.12a).

Table 9.12a: Examining relationships between growers and market agents based on cluster

Factors/Cluster	Cluster 1	Cluster 2	P
Trading partner often acts opportunistically	3.00	4.06	0.021

9.3.3 Relationships between growers and supermarkets

At the time of the study, there were only three major supermarket chains in Western Australia namely Woolworths, Coles and FAL. For this study, only two respondents were able to participate. The person in charge of purchasing fresh produce for the selected chain was interviewed.

In examining the relationships between growers and supermarkets, clearly the supermarkets were more satisfied in their relationship with preferred growers. However, with only two respondents, there is little point in pursuing statistically significant differences between the parties (Table 9.13).

Table 9.13: Examining relationships between growers and supermarkets

Factors/Relationships	G>S	S>G
SATISFACTION		
I am satisfied with my transactions	4.67	4.50
Sold/purchased my produce at a mutually agreed price	4.67	5.50
Satisfied with the price received	4.33	4.50
Increased sales revenue	4.33	5.00
Satisfied with the activities performed	4.00	5.00
Adequately rewarded	4.33	4.50
Treats me fairly and equitably	4.33	4.50
TRUST		
Trust preferred trading partner	4.67	4.50
Reputation for being fair	4.33	4.50
Always honest	4.00	4.00
Preferred trading partner meets expectations	4.00	5.00
Confidence in preferred trading partner	4.33	4.50
Trading partner always considers best interests	3.67	3.50
Always keeps promises	3.67	3.50
Believe information provided	3.33	4.50
COMMITMENT		
Expect to continue to trade with partner	5.00	5.50
Expect the relationship to continue	5.00	5.50
More cost effective to rely on my trading partner	5.00	5.50
COMMUNICATION		
Trading partner advises on market prices	1.33	3.50
Partner asks how they can improve quality of produce	3.67	4.00
Partner asks how they can improve quality of service	3.00	4.00
Trading partner advises of supply problems	3.67	4.00
RELATIONSHIP SPECIFIC INVESTMET		
Willing to share the risk	1.00	3.00
Partner provides financial assistance	1.00	1.00
DEPENDENCE		
Free to choose another trading partner at any time	3.00	4.00
Has best offer relative to alternatives (CL_{alt})	4.33	4.50
POWER		
Trading partner has all the power	4.33	2.00
Trading partners controls all the information	3.67	1.50
OPPORTUNISM		
Trading partner often acts opportunistically	4.33	3.50
N	**3**	**2**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > S demonstrates the grower's relationship with their preferred supermarket
S > G demonstrates the supermarket's relationship with their preferred grower

Supermarkets were more satisfied with the price at which they had purchased the grower's produce, believing that this in turn enabled them to increase their sales revenues. Furthermore, the supermarkets were

generally satisfied with the activities performed by their upstream growers. Nevertheless, there was some doubt expressed by the supermarkets as to whether they had been treated fairly and equitably. As a result, only moderate levels of trust were evident in the supermarkets exchange relationships with their preferred grower. In particular, it was evident that the growers did not always keep their promises, nor did they always act in their customer's best interests.

Conversely and not unexpectedly, the growers were less satisfied with the prices they received and the activities performed by the supermarkets. As growers did not always believe the information provided by the supermarkets, trust was generally low.

By examining both the supermarkets relationship with the growers and the grower's relationship with the supermarkets, it would be fair to say that their relationships were largely adversarial as both parties were less satisfied with the outcomes of the exchange and both parties were endeavouring to take advantage of the other. Trust therefore in their respective exchange partner was low. Nevertheless, both parties were to similar degrees committed to the relationship. The growers needed an outlet for their fruit and the supermarkets needed the consistency of quality and supply that they could not obtain from market agents operating in the Perth Metropolitan Market. For this reason, the exchange parties were more or less dependent on one another. If either party were to withdraw, they would experience some difficulty in finding a better alternative exchange partner.

However, the relationship was by no means symmetrical, for the supermarkets possessed the majority of market power. With only three supermarkets chain available in the market, they are able to control and

have the power they can possess over the growers that they have the relationship with. While it was evident that minimal communication took place between the exchange partners, the supermarkets did indicate that growers were more willing to share the risk associated with the exchange transaction although growers were not able to provide any financial assistance.

As previously indicated, those growers dealing with the supermarkets were large scale growers. Only the large scale growers had the volume and range of fruit sizes necessary to transact with the supermarkets. Furthermore, they had their own facilities for grading, packaging and storing the fruit.

9.3.4 Relationships between growers and retailers

In reviewing the grower's relationship with downstream retailers, it was evident that the retailers were generally very satisfied with the outcome of their exchange transactions with their preferred growers (Table 9.14).

Most retailers seemed satisfied with the activities performed by the growers and felt they had been equitably rewarded. It was also evident that retailers generally trusted their preferred grower. Preferred growers had a good reputation for being fair, they generally kept their promises and thus retailers had confidence in their preferred growers. Not unexpectedly, retailers indicated that they expected their relationship with their preferred grower to continue.

For the growers, only moderate levels of satisfaction were evident in their relationships with their preferred retailer. Presumably this was because the retailers generally constituted only a small proportion of their business, rather than to any endemic problems within the relationship.

While both parties indicated that they were free to choose an alternative trading partner at any time, both remained highly committed to the relationship. Neither party was more or less susceptible to the exercise of coercive market power.

Table 9.14: Examining relationships between growers and retailers

Factors/Relationships	G>R	R>G	p
SATISFACTION			
I am satisfied with my transactions	4.60	5.40	0.113
Sold/purchased produce at a mutually agreed price	5.30	5.20	0.845
Satisfied with the price received	5.20	5.00	0.687
Increased sales revenue	4.60	5.40	0.078
Satisfied with the activities performed	**4.30**	**5.80**	**0.003**
Adequately rewarded	4.50	5.40	0.159
Treats me fairly and equitably	4.00	5.20	0.165
TRUST			
Trust preferred trading partner	**3.60**	**5.40**	**0.020**
Reputation for being fair	4.20	5.40	0.056
Always honest	4.60	5.00	0.578
Preferred trading partner meets expectations	4.80	5.20	0.468
Confidence in preferred trading partner	4.70	5.60	0.101
Trading partner always considers best interests	4.70	5.00	0.608
Always keeps promises	4.50	5.40	0.107
Believe information provided	4.50	5.20	0.357
COMMITMENT			
Expect to continue to trade with partner	**4.30**	**5.80**	**0.010**
Expect the relationship to continue	**4.30**	**5.80**	**0.010**
More cost effective to rely on my trading partner	5.00	5.60	0.259
COMMUNICATION			
Trading partner advises on market prices	**1.90**	**4.20**	**0.016**
Partner asks how they can improve quality of produce	2.80	4.40	0.054
Partner asks how they can improve quality of service	2.70	4.20	0.079
Trading partner advises of supply problems	3.60	4.60	0.290
RELATIONSHIP SPECIFIC INVESTMENT			
Willing to share the risk	1.90	3.00	0.238
Partner provides financial assistance	2.60	2.40	0.813
DEPENDENCE			
Free to choose another trading partner at any time	5.50	5.20	0.529
Has best offer relative to alternatives (CL_{alt})	4.80	5.40	0.323
POWER			
Trading partner has all the power	1.70	1.80	0.882
Trading partners controls all the information	2.10	1.80	0.714
OPPORTUNISM			
Trading partner often acts opportunistically	3.40	2.80	0.505
N	**10**	**5**	**-**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > R demonstrates the grower's relationship with their preferred retailer
R > G demonstrates the retailer's relationship with their preferred grower

However, growers indicated that retailers were more likely to act opportunistically. This would suggest that retailers tended to rely on the growers to supply fruit when they were short, for growers indicated that retailers were most likely to communicate with them when there was a supply problem.

In attempting to understand the relationship between growers and preferred retailers, segmenting the growers on the basis of the cluster groups could not be undertaken because only one large grower transacted directly with retailers.

9.3.5 Relationships between growers and fruit exporters

In examining the relationships between growers and their fruit exporters, it was immediately apparent that the growers were generally dissatisfied in their transactions with their preferred fruit exporter (Table 9.15).

Growers were generally dissatisfied with the activities undertaken by their preferred fruit exporter. They were generally dissatisfied with both the price received and the means by which the price was mutually agreed. As growers did not believe they had been treated fairly and equitably, it was no surprise to find that the level of trust in their exchange relationships with preferred fruit exporters was particularly low.

Table 9.15: Examining relationships between growers and fruit exporters

Factors/Relationships	G>FE	FE>G	p
SATISFACTION			
I am satisfied with my transactions	4.25	4.75	0.352
Sold/purchased produce at a mutually agreed price	2.25	3.75	0.066
Satisfied with the price received	3.75	4.25	0.495
Increased sales revenue	3.50	3.50	1.000
Satisfied with the activities performed	**3.75**	**5.00**	**0.000**
Adequately rewarded	3.81	4.25	0.288
Treats me fairly and equitably	**3.25**	**4.75**	**0.010**
TRUST			
Trust preferred trading partner	**3.13**	**5.00**	**0.000**
Reputation for being fair	**3.19**	**5.00**	**0.000**
Always honest	**2.13**	**4.75**	**0.004**
Preferred trading partner meets expectations	**3.38**	**4.75**	**0.026**
Confidence in preferred trading partner	4.00	4.75	0.128
Trading partner always considers best interests	3.00	4.25	0.052
Always keeps promises	**2.81**	**4.75**	**0.007**
Believe information provided	3.69	4.50	0.146
COMMITMENT			
Expect to continue to trade with partner	4.63	5.00	0.508
Expect the relationship to continue	4.63	5.00	0.508
More cost effective to rely on my trading partner	4.44	5.00	0.299
COMMUNICATION			
Trading partner advises on market prices	3.63	2.75	0.098
Partner asks how they can improve quality of produce	3.69	2.50	0.073
Partner asks how they can improve quality of service	**3.81**	**2.50**	**0.028**
Trading partner advises of supply problems	4.31	4.25	0.913
RELATIONSHIP SPECIFIC INVESTMENT			
Willing to share the risk	**1.13**	**2.75**	**0.000**
Partner provides financial assistance	1.13	1.25	0.556
DEPENDENCE			
Free to choose another trading partner at any time	4.69	4.75	0.921
Has best offer relative to alternatives (CL_{alt})	4.69	4.25	0.508
POWER			
Trading partner has all the power	2.06	2.00	0.910
Trading partners controls all the information	2.94	2.25	0.137
OPPORTUNISM			
Trading partner often acts opportunistically	**5.00**	**3.75**	**0.000**
N	**16**	**4**	**-**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
G > FE demonstrates the grower's relationship with their preferred fruit exporter
FE > G demonstrates the fruit exporter's relationship with their preferred grower

Fruit exporters were perceived to be dishonest and to often default on their promises. While this had much to do with variations in both the

demand and the price for fruit in the international market, growers nevertheless believed that fruit exporters often acted opportunistically. Even so, most growers indicated that they remained committed to their preferred fruit exporter, for their preferred fruit exporter was perceived to make the best offer relative to the alternatives. However, whether or not they would supply apples to their preferred fruit exporter depended on the prevailing prices in other markets. Not unexpectedly, growers would sell their fruit to that market intermediary who offered the highest price.

In order to secure the growers fruit, fruit exporters were observed to ask the growers how they might best improve the quality of the service offered and how the grower might best improve their offer quality. Not unexpectedly, fruit exporters often advised the growers of prices in the export market. However, given that the growers transacted with a number of other market intermediaries, they were unable to exercise any control over the information growers were able to obtain.

9.4 Comparing the buyers relationship with growers and other market intermediaries

To explore any differences in the buyer's relationship with preferred growers and alternative suppliers, further analysis using either the independent t-test or ANOVA was undertaken. However, not all relationships could be taken into consideration because of the lack of sufficient respondents. Even then, it was not always possible to rely on statistical evidence to identify any difference between the relationships.

9.4.1 Comparing market agent's relationship

In examining the relationships between market agents and their preferred grower and other market agents, it was immediately apparent that market agents were more satisfied in their relationships with preferred growers compared to other market agents (Table 9.16).

Market agents were more satisfied with the price paid to secure fruit from their preferred grower rather than other market agents. Not unexpectedly, transacting with growers directly increased their sales revenue, for in purchasing fruit from other market agents, an additional commission was payable which, by necessity, made the fruit more expensive to purchase. Most market agents reported that their preferred growers always met their expectations.

Preferred growers were more honest in their transactions than other market agents. They were more likely to keep their promises and more likely to act in the best interests of the focal market agent. Not unexpectedly, the focal market agent was more committed to their preferred grower. Market agents tended to purchase from other market agents only when they did not have sufficient fruit of their own available to meet a customer's request. Not unexpectedly, in a highly competitive market place, other agents could be expected to take advantage of the focal market agents position, and thus to price the fruit as high as possible.

Table 9.16: Examining upstream relationships between market agents and their preferred suppliers

Factors/Relationships	MA >G	MA>MA
SATISFACTION		
I am satisfied with my transactions	**5.33[a]**	**4.67[b]**
Purchased my produce at a mutually agreed price	5.17[a]	4.50[a]
Satisfied with the price received	5.67[a]	4.50[a]
Increased sales revenue	**5.67[a]**	**3.83[b]**
Satisfied with the activities performed	5.50[a]	4.17[a]
Adequately rewarded	5.00[a]	3.67[a]
Treats me fairly and equitably	5.50[a]	4.83[a]
TRUST		
Trust preferred trading partner	5.67[a]	4.33[a]
Reputation for being fair	6.00[a]	4.33[b]
Always honest	**5.50[a]**	**4.33[b]**
Preferred trading partner meets expectations	**5.50[a]**	**4.17[b]**
Confidence in preferred trading partner	5.67[a]	4.83[a]
Trading partner always considers best interests	**5.33[a]**	**3.67[b]**
Always keeps promises	**5.33[a]**	**4.17[b]**
Believe information provided	5.83[a]	3.83[b]
COMMITMENT		
Expect to continue to trade with partner	**5.83[a]**	**5.17[b]**
Expect the relationship to continue	5.67[a]	5.17[a]
More cost effective to rely on my trading partner	5.33[a]	4.17[a]
COMMUNICATION		
Trading partner advises on market prices	3.50[a]	3.00[a]
Partner asks how they can improve quality of produce	**5.33[a]**	**2.83[b]**
Partner asks how they can improve quality of service	**5.17[a]**	**2.83[b]**
Trading partner advises of supply problems	4.83[a]	3.83[a]
RELATIONSHIP SPECIFIC INVESTMENT		
Willing to share the risk	1.50[a]	1.00[a]
Partner provides financial assistance	1.67[a]	1.00[a]
DEPENDENCE		
Free to choose another trading partner at any time	5.33[a]	6.00[a]
Has best offer relative to alternatives (CL_{alt})	3.50[a]	2.67[a]
POWER		
Trading partner has all the power	**2.83[a]**	**1.00[b]**
Trading partners controls all the information	**1.83[a]**	**1.00[b]**
OPPORTUNISM		
Trading partner often acts opportunistically	3.33[a]	4.83[a]
N	**6**	**6**

Items with the same superscript are not significantly different at p=0.05
Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
MA < G demonstrates the market agent's relationship with their preferred grower
MA > MA demonstrates the market agent's relationship with their preferred other market agent

In a situation where market agents were transacting with other market agents, power and dependence were unlikely to be of any consequence. Both parties were capable of accepting or rejecting the others offer and both parties had access to the same market information. Consequently, there was little if any need for market agents to communicate with one another except when one found itself short of fruit.

9.4.2 Comparing supermarket's relationship

In comparing the supermarkets relationship with their preferred growers, fruit packers and market agents, it was evident that there little to differentiate between the three relationships (Table 9.17).

Supermarkets were equally satisfied in their transactions with all three suppliers although they paid marginally higher prices to secure the fruit from market agents. Similarly, there was no difference in the levels of trust between all three suppliers. Not unexpectedly, growers were the least able to provide the supermarkets with any information on market prices.

However, with supermarkets accounting for an increasing proportion of sales to consumers, market agents were keen to secure an increasing proportion of their business and thus to explore ways in which they could improve the quality of the service they offered. Not unexpectedly, from the supermarkets perspective, fruit packers provided the best offer. Nevertheless, in order to secure their supply base, the supermarkets intended to continue to buy from all three suppliers.

Table 9.17: Examining upstream relationships between supermarkets and their preferred suppliers

Factors/Relationships	S>G	S>FP	S>MA
SATISFACTION			
I am satisfied with my transactions	4.50	5.00	4.50
Purchased my produce at a mutually agreed price	5.50	5.50	5.00
Satisfied with the price received	4.50	4.50	4.50
Increased sales revenue	5.00	4.50	5.00
Satisfied with the activities performed	5.00	4.50	5.00
Adequately rewarded	4.50	4.00	5.00
Treats me fairly and equitably	4.50	4.50	4.50
TRUST			
Trust preferred trading partner	4.50	4.00	4.50
Reputation for being fair	4.50	4.50	4.50
Always honest	4.00	4.00	4.00
Preferred trading partner meets expectations	5.00	5.00	5.00
Confidence in preferred trading partner	4.50	4.50	4.50
Trading partner always considers best interests	3.50	3.50	3.50
Always keeps promises	3.50	3.50	3.50
Believe information provided	4.50	4.50	4.50
COMMITMENT			
Expect to continue to trade with partner	5.50	5.50	5.50
Expect the relationship to continue	5.50	5.50	5.50
More cost effective to rely on my trading partner	5.50	5.00	5.00
COMMUNICATION			
Trading partner advises on market prices	3.50	4.00	4.50
Partner asks how they can improve quality of produce	4.00	4.50	4.00
Partner asks how they can improve quality of service	4.00	4.00	4.50
Trading partner advises of supply problems	4.00	4.50	4.50
RELATIONSHIP SPECIFIC INVESTMENT			
Willing to share the risk	3.00	3.00	3.00
Partner provides financial assistance	1.00	1.00	1.00
DEPENDENCE			
Free to choose another trading partner at any time	4.00	3.50	4.00
Has best offer relative to alternatives (CL_{alt})	4.50	5.00	4.50
POWER			
Trading partner has all the power	2.00	2.00	1.50
Trading partners controls all the information	1.50	1.50	1.50
OPPORTUNISM			
Trading partner often acts opportunistically	3.50	3.50	4.00
N	**2**	**2**	**2**

Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
S > G demonstrates the supermarket's relationship with their preferred grower
S > FP demonstrates the supermarket's relationship with their preferred fruit packer
S > MA demonstrates the supermarket's relationship with their preferred market agent

9.4.3 Comparing retailer's relationship

In reviewing the retailer's relationships with alternative suppliers, it is immediately evident that retailers experienced the highest levels of satisfaction and trust in their transactions with their preferred grower (Table 9.18).

While there was little to differentiate between the retailers relationship with growers and market agents, other than to suggest that they believed growers and market agents treated them more fairly and equitably, and thus retailers felt they had been rewarded more highly, a great deal of dissatisfaction was evident in the retailers relationship with FAL. Retailers were very dissatisfied with the level of service provided by FAL and by the high prices FAL charged for fresh produce. FAL seldom met the retailer's expectations and they seldom kept their promises. Not unexpectedly, the retailers had little confidence in FAL and perceived them to often act in their own best interests.

With regard to the communication FAL initiated with the retailers, it was evident that FAL seldom advised retailers on market prices. Nor for that matter did FAL seek to improve either the quality of the produce they offered or the quality of the service to customers.

Table 9.18: Examining upstream relationships for retailers and their preferred suppliers

Factors/Relationships	R>G	R>MA	R>FAL
SATISFACTION			
I am satisfied with my transactions	5.40[a]	5.11[a]	4.50[a]
Purchased my produce at a mutually agreed price	**5.20[a]**	**5.06[a]**	**1.50[b]**
Satisfied with the price received	**5.00[a]**	**4.89[a]**	**2.50[b]**
Increased sales revenue	**5.40[a]**	**5.06[a]**	**3.00[b]**
Satisfied with the activities performed	**5.80[a]**	**5.17[a]**	**2.75[b]**
Adequately rewarded	**5.40[a]**	**4.67[a]**	**2.00[b]**
Treats me fairly and equitably	5.20[a]	4.61[a]	4.25[a]
TRUST			
Trust preferred trading partner	5.40[a]	4.67[a]	4.75[a]
Reputation for being fair	5.40[a]	4.94[a]	5.00[a]
Always honest	5.00[a]	4.72 [a]	5.50[a]
Preferred trading partner meets expectations	**5.20[a]**	**4.78[ab]**	**3.50[b]**
Confidence in preferred trading partner	5.60[a]	5.00[a]	4.75[a]
Trading partner always considers best interests	**5.00[a]**	**4.28[a]**	**1.75[b]**
Always keeps promises	**5.40[a]**	**4.33 [ab]**	**3.75[b]**
Believe information provided	**5.20[a]**	**4.28[ab]**	**3.50[b]**
COMMITMENT			
Expect to continue to trade with partner	5.80[a]	5.56[a]	5.50[a]
Expect the relationship to continue	5.80[a]	5.50[a]	5.25[a]
More cost effective to rely on my trading partner	5.60[a]	4.50[a]	4.50[a]
COMMUNICATION			
Trading partner advises on market prices	**4.20[a]**	**3.94[ab]**	**2.75[b]**
Partner asks how they can improve quality of produce	**4.40[a]**	**3.17[a]**	**1.00[b]**
Partner asks how they can improve quality of service	**4.20[a]**	**3.00[ab]**	**1.25[b]**
Trading partner advises of supply problems	4.60[a]	4.61[a]	5.50[a]
RELATIONSHIP SPECIFIC INVESTMENT			
Willing to share the risk	3.00[a]	1.83[a]	1.00[a]
Partner provides financial assistance	2.40[a]	1.28[a]	1.00[a]
DEPENDENCE			
Free to choose another trading partner at any time	5.20[a]	5.94[a]	6.00[a]
Has best offer relative to alternatives (CL_{alt})	5.40[a]	4.83[a]	5.50[a]
POWER			
Trading partner has all the power	**1.80[b]**	**1.94[b]**	**5.25[a]**
Trading partners controls all the information	**1.80[b]**	**2.33[b]**	**5.50[a]**
OPPORTUNISM			
Trading partner often acts opportunistically	**2.80[b]**	4.17[ab]	5.50[a]
N	**5**	**18**	**4**

Items with the same superscript are not significantly different at p=0.05
Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
R < G demonstrates the retailer's relationship with their preferred grower
R > MA demonstrates the retailer's relationship with their preferred market agent
R > FAL demonstrates the retailer's relationship with their FAL

While the retailers were free to transact with whichever growers and market agents they chose, it was apparent that in its relationship with

retailers, FAL was seen to exert considerable power on its downstream customers. FAL had all the power and controlled all the information. No doubt, the exercise of that power was primarily responsible for the low levels of trust and satisfaction observed in their relationship with retailers. Not unexpectedly, retailers indicated that FAL was more likely to act opportunistically.

9.4.4 Comparing fruit exporter's relationship

In examining the relationships between fruit exporters and their preferred growers and fruit packers, there was little evidence of any significant difference in the level of satisfaction in the exchange (Table 9.19).

However, fruit exporters reported higher level of trust in their exchange transactions with preferred growers. Growers had a better reputation for being fair and honest in their transactions. Furthermore, preferred growers were more likely to keep their promises. Fruit packers, on the other hand, were more likely to act in their own best interests, forgoing previous arrangements to secure a higher price. However, fruit packers were more likely to ask fruit exporters how they might improve the quality of the fruit and the service offered.

Table 9.19: Examining upstream relationships between fruit exporters and their preferred sellers

Factors/Relationships	FE>G	FE>FP
SATISFACTION		
I am satisfied with my transactions	4.75[a]	4.67[a]
Purchased my produce at a mutually agreed price	3.75[a]	4.33[a]
Satisfied with the price received	4.25[a]	4.33[a]
Increased sales revenue	3.50[a]	4.33[a]
Satisfied with the activities performed	5.00[a]	4.00[a]
Adequately rewarded	4.25[a]	3.67[a]
Treats me fairly and equitably	4.75[a]	4.00[a]
TRUST		
Trust preferred trading partner	5.00[a]	4.00[a]
Reputation for being fair	5.00[a]	4.00[a]
Always honest	4.75a	4.00[a]
Preferred trading partner meets expectations	4.75[a]	4.33[a]
Confidence in preferred trading partner	4.75[a]	4.33[a]
Trading partner always considers best interests	4.25[a]	3.67[a]
Always keeps promises	**4.75[a]**	**3.67[b]**
Believe information provided	4.50[a]	4.00[a]
COMMITMENT		
Expect to continue to trade with partner	5.00[a]	4.67[a]
Expect the relationship to continue	5.00[a]	5.00[a]
More cost effective to rely on my trading partner	5.00[a]	5.00[a]
COMMUNICATION		
Trading partner advises on market prices	2.75[a]	2.67[a]
Partner asks how they can improve quality of produce	2.50[a]	3.33[a]
Partner asks how they can improve quality of service	2.50[a]	3.00[a]
Trading partner advises of supply problems	4.25[a]	3.33[a]
RELATIONSHIP SPECIFIC INVESTMENT		
Willing to share the risk	2.75[a]	2.00[a]
Partner provides financial assistance	1.25[a]	1.33[a]
DEPENDENCE		
Free to choose another trading partner at any time	4.75[a]	4.67[a]
Has best offer relative to alternatives (CL_{alt})	4.25[a]	4.33[a]
POWER		
Trading partner has all the power	2.00[a]	2.00[a]
Trading partners controls all the information	2.25[a]	2.33[a]
OPPORTUNISM		
Trading partner often acts opportunistically	3.75[a]	4.67[a]
N	**4**	**3**

Items with the same superscript are not significantly different at p=0.05
Where; 1 is "I strongly disagree" and 6 is "I strongly agree"; and
FE > G demonstrates the fruit exporter's relationship with their preferred grower
FE > FP demonstrates the fruit exporter's relationship with their preferred fruit packer

In terms of the exchange partner's willingness to make relationship specific investments, fruit exporters indicated that both growers and fruit

packers were not willing to share the risk and unable to assist with the financial problems faced by fruit exporters. However, fruit exporters reported that they were not dependent on their trading partners and thus their trading partners were unable to exercise any power during their transactions.

9.5 Chapter summary and conclusion

The aim of this chapter was to explore the grower's relationship with alternative downstream buyers and the extent to which growers were able to satisfy the buyer's needs relative to other suppliers. Considering that the success of the relationship requires the existence of a win-win situation (Donaldson and O'Toole, 2002; Gummesson, 2002), further analysis was undertaken to identify the grower's relationship with their preferred buyers using the independent t-test.

Growers were most dissatisfied by their inability to secure a higher price commensurate with the level of risk they endured and the inputs they had committed during their exchange transactions with preferred market intermediaries. This was most evident in the export market where price competition was most intense.

Although growers believed that they were free to choose an alternative trading partner at any time, except for the supermarkets, growers believed that market intermediaries were able to use their power to negotiate a lower price. In this case, the buyers do have a legitimate right to exercise some power because they are the customer and that enables them to make the decision as to whom they will transact with. However, as suggested by Benton and Maloni (2005), they may also have some referent power and some expert power that can attract new suppliers. With superior expertise

in marketing and greater access to knowledge, the market intermediaries are more informed than the growers.

Conversely, growers continue to feel that they have not been adequately rewarded and that market intermediaries do not always act in their best interest. Such a situation reduces trust and therefore the growers commitment to the exchange transaction is adversely affected. As Chu and Fang (2006) found, trust is really important in fostering commitment in supply chain relationships.

Through the clusters, it was found that only the larger growers had the economies of scale that were necessary to enable them to deal directly with the supermarket chains. The ability to provide volume and continuity of supply provided them with a competitive advantage. With regard to the market agents, both small and large growers transacted with the market agents. There was no significant difference between these groups except that small scale growers believed that their preferred market agent often acted opportunistically. Perhaps this was because most small growers do not understand the market dynamics. Given that auctions are no longer conducted, there is no public forum where prices can be visibly established. The lack of transparency during exchange transactions is therefore problematic and with prices changing on a daily basis, not unexpectedly, this leads to a great deal of distrust between small growers and market agents (Batt 2003b).

Most market intermediaries indicated that growers were the most able to meet their needs compared to other alternative suppliers. Most fruit packers indicated high levels of trust with their preferred growers that led to an expectation that the relationships would continue into the future. In comparing the market agent's and retailer's relationships with their

preferred suppliers, most market agents and retailers agreed that they were more satisfied in transacting directly with their preferred grower. For the other market intermediaries like wholesalers, fruit exporters and supermarkets, they seemed to be more satisfied in their relationship with alternative suppliers.

There are differences in the downstream and upstream relationships in the Western Australian apple supply chain. From the analysis that has been undertaken, it can be said that most market intermediaries were highly satisfied in their relationship with their preferred growers and were expecting to continue their relationship with their preferred grower in the future. People prefer to transact with people they like, however, they will continue to transact only until such time as they can secure a better deal.

CHAPTER 10

DISCUSSIONS AND CONCLUSIONS

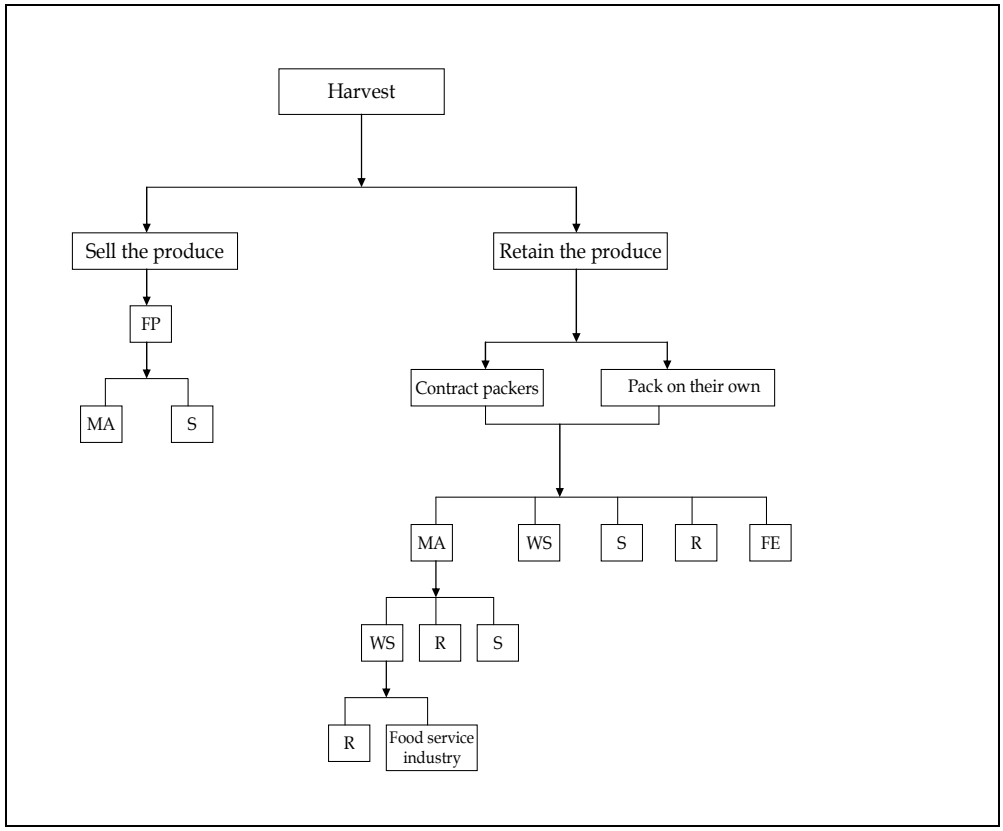
10.1 Chapter Outline

This chapter, the final in this thesis, seeks to bring together the results discussed in the three preceding chapters and to synthesise the results of the price margin analysis, gap analysis and the relational elements. This will be undertaken from the grower's perspective, by looking firstly at the marketing options available to the grower. It will then be necessary to identify the costs incurred by the grower in transacting with each alternative exchange partner. Gap analysis will identify the extent to which the grower is best able to fulfil the needs of each market intermediary, and an examination of the relational elements will identify the extent to which each exchange partner is satisfied in their transaction with growers, in comparison to that which is available from other alternative offers. The importance of trust, commitment, power, dependence, communication and the willingness to make relationship specific investments will be explored. This chapter concludes with a discussion on the benefits of using a pluralistic methodology and of the associated difficulties and constraints associated with the approach. Recommendations for further research are outlined.

10.2 The Western Australian apple supply chain

From the survey undertaken in this study, Figure 10.1 shows the marketing options available and the actors involved in the Western Australian (WA) apple supply chain.

Figure 10.1 Western Australian apple supply chain



After harvesting the fruit, growers will normally sell the fruit direct to fruit packers (FP) or they will retain the produce. From this study, all fruit packers were sourcing their produce directly from growers and some of the fruit packers were actually growers who packed for and on behalf of other small growers. For those growers who want to retain their produce, growers will either use the services offered by contract packers to undertake the value added activities, or do it on their own if they have the facilities on their orchard. The growers must then decide to whom they will sell their produce. The options include market agents (MA), secondary wholesalers/provedores (WS), supermarkets (S), retailers (R) and fruit exporters (FE).

Fruit which is sold to market agents is then sold to secondary wholesalers, supermarkets and retailers. Even although the growers can supply these customers direct, secondary wholesalers, retailers and supermarkets continue to use the wholesale market as a means of obtaining the variety of produce that they require at competitive prices. It is also abundantly clear that there is an element of trade occurring between the market agents themselves, for all six agents involved in this study indicated that they often sourced fruit from other market agents.

Fruit which is purchased by the secondary wholesalers is then supplied either to retailers or the food service industry like hotels, restaurants and institutional buyers. Most of the secondary wholesalers indicated that they procured their fruit from market agents at the Perth Metropolitan Market because the range of products offered in the central market easily enabled them to fulfil their customer's requirements.

10.3 Transaction cost analysis

With regard to the price growers receive, the results of the study reveal significant differences in the harvesting costs between small scale and larger scale growers. Presumably, these differences arise because of differences in orchard management including pruning and training systems and the use of mechanical picking aids. This means that larger growers have a cost advantage which may enable them to secure markets for a lower price or to generate higher profits.

The results also reveal that larger scale growers have lower grading costs, indicative of the economies of scale. It is for this reason that many small-scale growers choose to engage contract fruit packers to dip, wax, label

grade and pack their fruit at much lower cost than they themselves are able to achieve.

Growers also need to appreciate that different customers often want the fruit they have purchased to be packed in different ways. Thus there are differences in the farm gate price of the fruit arising from the use of different packing methods. Furthermore, there are differences in the cost of packaging between small scale and larger growers. Huge discounts are available from carton manufacturers depending on the quantity of cartons purchased. Such discounts are not available from the use of returnable plastic crates (RPC). Furthermore, as both growers and market intermediaries must pay a deposit for each RPC, a considerable amount of working capital can be tied up. It is more likely therefore, that large growers will pack their fruit primarily into cardboard cartons because it is more cost efficient, whereas the small scale growers are more likely to use returnable plastic crates.

Large scale growers are capable of transacting with the supermarkets because they have the ability to supply continuously and in the quantity required. Furthermore, they are able to perform the value-added activities required by these buyers. While supermarkets will endeavour to negotiate lower prices, the results show that the larger growers are being rewarded for the extra activities they undertake through higher profits. By drawing upon the economies of scale, the larger growers are still able to generate acceptable returns. However, it is abundantly clear that the net returns are very much dependent on the variety. Although the costs of production are not greatly dissimilar between Granny Smith and Pink Lady, there is a vast difference in the wholesale market price, reflecting the greater demand for new varieties, new flavours, superior colour and other desirable attributes.

Nevertheless, there is evidence to suggest that the large scale growers are receiving a higher price from their buyers compared to what the small scale growers are receiving. Furthermore, given their superior capacity to meet the needs of downstream customers, the larger growers have more marketing options compared to small scale growers.

10.4 Gap analysis on offer quality

Not unexpectedly, growers can be expected to choose that market intermediary who offers the highest price for their fruit. However, given the risks and the uncertainty that is so often associated with the exchange transaction, growers will seek assurances. Growers prefer to transact with those market intermediaries who are financially secure and have a good reputation. Having then satisfied these criteria, growers prefer to transact with those market intermediaries who are the most willing to provide market information. Somewhat removed from the market, growers will utilise such information in deciding how much fruit they will allocate to each customer.

That said, in deciding how much fruit to send to each customer, growers need to match the customers requirements with the quantity and quality of fruit they have available to sell at that time. As different customers have different product specifications and terms of trade, the grower may find it necessary to compromise, often choosing to sell a known quantity of fruit to a customer who perhaps offers a lower price, but for whom payment is assured. Not only may this reduce transaction costs, but the grower's willingness to accept a lower price may facilitate subsequent sales.

Nevertheless, it is evident that many growers fail to understand both the transaction costs and the needs of their downstream market

intermediaries. For instance, in exploring the relationship between growers and fruit packers, growers were very dissatisfied with the price they received from fruit packers. Clearly, growers do not appreciate the costs associated with building the packing sheds, cool stores and the costs of grading, packing and storing fruit. Consequently, many growers think they are being taken advantage of by the fruit packers. In the fresh fruit market, prices are determined primarily by supply and demand and not by the grower's costs of production.

In terms of the grower's relationship with the market agents, it is clear that there has been much conflict between growers and market agents in the past. According to Batt (2003b), there is little trust and too little communication between growers and market agents. Sometimes growers have not been paid when market agents have collapsed due to financial mismanagement. However, for the small scale growers, in order to dispose of the fruit they have grown and packed, they may have little choice other than to transact with that market agent they trust the most. The volumes of fruit that they have available may be too large to sell direct to small independent greengrocers and the transaction costs too high, yet the quantity of fruit they have available may be too small to transact directly with the supermarkets.

Growers transact with supermarkets because they have to, not because they want to. For the larger scale growers, they know that supermarkets buy volume at a predetermined price. As growers are more certain of their costs than they are of their returns, they often accept the offer. Growers cannot afford the risk of putting all the fruit onto the wholesale market as this would only drive the prices down further. Consequently, this is little indication of any close personal friendship between the growers and the supermarkets: their relationship is purely business, with each exchange

partner being very conscious of the propensity for the other to take advantage whenever the opportunity arises.

In terms of the grower's transaction with retailers, for most small scale growers, it is very much a secondary activity: they tend only to transact with those retailers who are located close to their orchard. Generally, the independent supermarkets and retailers are too small and it is simply not cost effective to sell only to retailers. However, the results of the study indicate that retailers do pay the growers well.

For fruit exporters, the major problem here is the grower's failure to understand the international market, especially with regard to the quality requirements and the prices offered by competitors. Growers feel that the price they receive is not commensurate with the extra effort they put in to grade the fruit for export. Furthermore, this market is the most risky, for there is the need to meet the requirements of the importing country and the risks associated with currency exchange.

Regrettably, against countries such as South Africa and New Zealand, the WA apple industry is not competitive and exports are steadily declining. Nevertheless, growers recognise the need to diversify markets and to supply some fruit to the export market. Evidently, what growers are really doing is averaging the price across all markets, redirecting more fruit to those markets which are most profitable, but at the same time recognising that they must allocate some fruit to all markets to stabilize the price.

When looking at the criteria customers used when choosing alternative suppliers, most customers put quality as their first criteria followed by price. Most customers normally seek the best quality fruit at the lowest possible price.

Most fruit packers indicated that the fruit supplied by small growers was of poor quality and over priced. Market agents believed that quality and prices were problematic and small growers seldom met their expectations. Supermarkets were experiencing problems related to the packaging as supermarkets preferred the fruit to be packed in cartons. The retailers were looking for a more competitive price and a wider range of fresh fruit.

Since the small growers cannot supply what is required by the market intermediaries, buyers prefer to transact with larger scale growers who are more capable of providing what they want. Where they are unable to transact directly with the larger growers, they will transact with fruit packers, market agents or secondary wholesalers.

10.5 Relationship marketing

A considerable amount of literature has examined the nature of long term buyer-seller relationships (Hakansson 1982; Cunningham and Homse 1982; Anderson and Narus 1991; Morgan and Hunt 1994; Kalwani and Narayandas 1995; Wilson 1995; Sheth and Sharma 1997; and Ganesan 1997). In this study, from an analysis of the importance of the relational dimensions in the transactions between growers and their preferred trading partners, it was evident that the area of the orchard planted in apples (hectares) and apple production (tonnes) did affect the grower's relationship with downstream market intermediaries. Such factors determine, in part, the ability of the growers to supply their trading partners with a sufficient quantity of fruit reliably and continuously.

Through cluster analysis, for the 50 growers that participated in this study, 43 of the growers were categorised as small scale growers. Most of the small-scale growers were transacting with fruit packers, market

agents, secondary wholesalers, retailers and fruit exporters. Anderson and Weitz (1986) advise that when the market is dominated by a small number of buyers, the establishment of long-term relationships may help the growers to reduce risk.

In the supply chain for fresh produce there is much uncertainty and risk. Not only is the product perishable, but the manner in which it has been handled may have implications for other downstream actors. The results of the study indicated that growers were least satisfied in their relationship with the fruit exporters because there was too much risk and uncertainty in the international market. Furthermore, the quality requirements in the export market were too high, and the prices offered were not commensurate with the additional effort required.

Growers also indicated that they had the least personal relationship with the supermarkets. The transaction between growers and the supermarkets were strictly business. There was little two-way communication during the exchange and growers indicated that the supermarkets not only possessed the majority of power but they seldom hesitated to use it in their transactions. In transacting with the supermarkets, growers had no choice other than to accept or to reject the terms of trade offered. The larger growers were more dependent on the supermarkets for the supermarkets, were able to handle a greater volume. Small growers, on the other hand, cannot access the supermarkets directly as they were unable to supply the volume required reliably and consistently.

The results of this study reveal that supermarkets and fruit exporters were most dissatisfied with the growers. They reported that growers were constantly looking for a better price, thus there was some degree of opportunism present in their transactions. Furthermore, growers had the

poorest relationship with both supermarkets and fruit exporters. Here the exchange was generally conducted at arms length, whereas the relationship between growers and market agents was more personal (relational).

While fruit packers indicated that they were very satisfied with the growers during their transactions, growers, on the other hand, were much less satisfied with the fruit packers. Growers, it seems, fail to understand the downstream costs of grading and packing and thus overvalue their own contribution. Nevertheless, this situation is completely understandable as growers endure the most risk in bringing the crop to harvest and thus growers expect a profit that is commensurate with their effort.

A similar scenario was faced by the market agents, where growers apparently do not appreciate the costs involved in identifying buyers, facilitating the sale and the costs of handling and storing the product on the market floor. The growers prefer to transact with those market agents who they believe most often act in their best interest and who they most trust to handle their product.

In terms of the relationship between supermarkets and growers, the results of the study reveal that both are dissatisfied with each others performance. Furthermore, both distrust each other and, as a result, growers are always looking for better prices. The supermarkets cannot differentiate between the offer they receive from growers, fruit packers and the market agents. This would tend to suggest that in their transactions with the supermarkets, a potential supplier is either “in” or “out”, based on their capacity to supply and to accept the terms of trade specified. It is also evident that supermarkets use multiple sourcing to

secure the produce that they require. The supermarkets do not rely on just one supplier and they do not wish to become too dependent on just one supplier: they prefer to play off one against another. Thus, supermarkets must buy some of their fruit from growers, fruit packers and market agents, or face the risk of not being able to secure fruit when the supply diminishes.

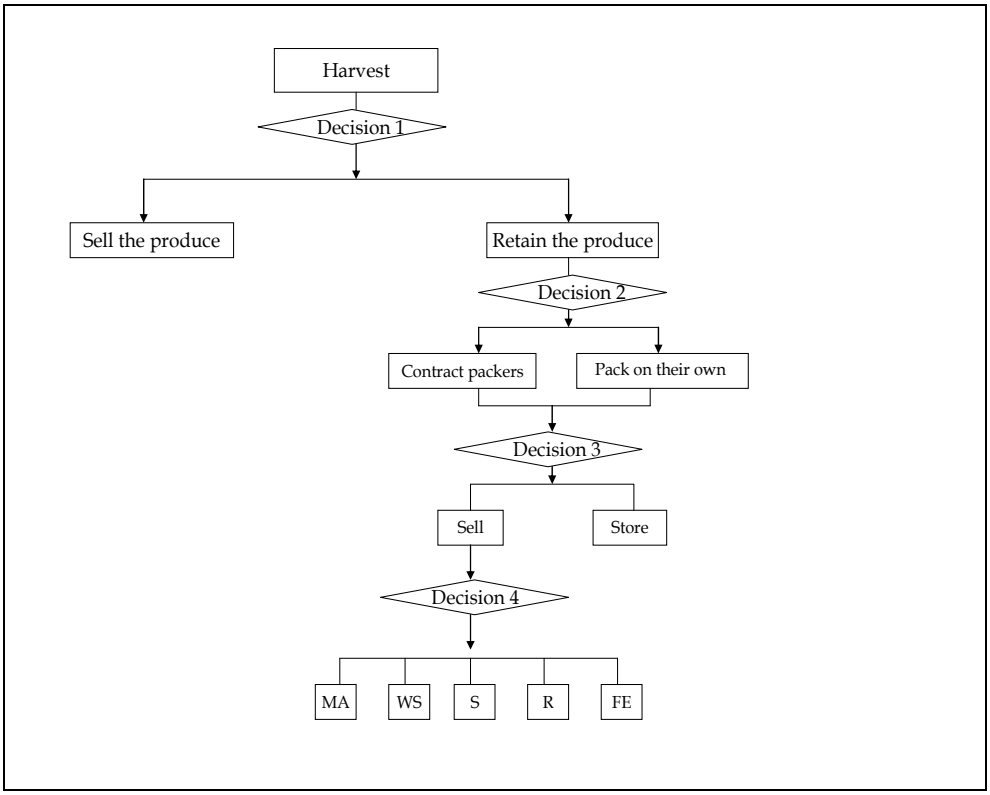
For the relationship between growers and fruit exporters, there are elements of opportunism evident from both parties, especially with regard to the demand and the price of fruit in the international market. Fruit exporters seek fruit of the highest quality, but it is seldom available from growers in WA. Furthermore, fruit from WA is too expensive compared to other competitors from China, South Africa and New Zealand.

10.6 Synthesis

In order to better understand the grower's decision-making process, a pluralistic approach was employed which included an examination of the transaction costs, gap analysis and relationship marketing. In this section, the results from the three different approaches are synthesized. Figure 10.2 illustrates the grower's decision tree with regard to the selection of their preferred downstream customers in the WA apple industry.

At Decision Point 1, growers must decide whether to sell the fruit directly to fruit packers soon after harvest or to retain the produce. For small scale growers that do not have a packing shed, the most likely option is to sell their fruit to fruit packers who are geographically close to their orchard. In some instances, fruit packers may make it easier for the growers to sell to them by arranging to pick the fruit up from the orchard.

Figure 10.2: Marketing options for Western Australian apple growers



In choosing this option, not unexpectedly, growers receive the lowest price for their fruit. As the fruit packer is buying the fruit ungraded, some allowance must be made for fruit that has been damaged by birds, hail, wind or sun, chemical applications, or fruit that is misshapen as a result of poor pollination or inappropriate thinning, or fruit that is too small to sell. In the orchard, any assessment of the amount of reject fruit will be largely subjective, which not unexpectedly, can lead to conflict and disagreements. Furthermore, the costs of grading and packing will increase as the quality of the fruit diminishes, as more labour must be employed to hand sort and remove the inferior fruit from the grading line. A far better and more equitable solution is for the fruit packer to pay the grower after the fruit has been graded and packed. This reduces the amount of risk the fruit packer must assume while simultaneously

ensuring that the grower receives appropriate incentives for producing good quality fruit. However, for the grower, such a marketing arrangement requires a high degree of trust which will result primarily from previous and positive interactions with the fruit packer. Similarly, fruit packers will prefer to purchase from those growers who have supplied good quality fruit in the past.

Irrespective of whether the grower and fruit packer have interacted in the past, smallholder growers are generally dissatisfied with the prices paid by the fruit packers. Most small-scale growers believe that they have not been adequately rewarded for the risks they have endured in growing the fruit. Others may simply not understand the high costs associated with dipping, waxing, grading, labelling, packing and storing the fruit. Not only must the fruit packers seek to recover the direct costs of labour and materials, but there are the associated overhead costs of depreciation, interest and the opportunity costs associated with having capital tied up in infrastructure and machinery, rather than replanting or reworking trees, or expanding the orchard area. Other growers may be more content to take the money soon after harvest, rather than to invest additional money in processing the fruit and to take the risk that the returns they receive will be sufficient to recover costs and to generate a profit.

For those growers who wish to retain ownership of their fruit, at Decision Point 2, they will either send the fruit to contract packers or undertake the packing and other related value added activities on their own as they have the facilities to grade, label, pack and store. Presumably, in making the decision to retain the fruit, growers must have sufficient financial resources to pay the contract packers and/or sufficient cash flow or cash reserves. By choosing to handle the marketing of their own fruit, the growers must also assume greater risk.

At Decision Point 3, the grower will make the decision to either sell or store, based on their expectations that: (a) prices will improve as the quantity of fruit diminishes; and, (b) the price that the grower receives will be sufficient to offset the additional costs of storage and the potential losses due to storage rots and other disorders. However, it is quite obvious that only those growers who have storage facilities will need to make this decision. The results of this study indicated that only the larger scale growers have the storage facilities on their orchards and the capacity to use either modified or controlled atmosphere storage.

At Decision Point 4, at some point in time, the grower must ultimately make the decision to sell. At the present time, in WA, the grower may sell to one of five different market intermediaries. However, the inability and/or the unwillingness of the grower to meet the market intermediaries needs may exclude them from some markets, and growers may choose to transact with more than one type of market intermediary and indeed, to transact with many different customers. Here, the grower's decisions with whom they wish to transact will be made with consideration to the transaction costs, gap analysis and the relational marketing dimensions.

In this study, the propensity of the growers to fulfil their customer's needs were based on the cluster groups to which the growers belonged: where C1 were the larger scale growers and C2 were the small scale growers (Table 10.1).

Table 10.1: Grower's propensity to fulfil customer's demands

Propensity to fulfil customer's demands	FP		MA		WS		S		R		FE	
	C1	C2	C1	C2	C1	C2	C1	C2	C1	C2	C1	C2
Dipping	NA	X	√	√	NA	√	√	NA	NA	√	√	√
Grading	NA	X	√	√	NA	√	√	NA	NA	√	√	√
Labelling	NA	X	√	√	NA	√	√	NA	NA	√	√	√
Packing	NA	X	√	√	NA	√	√	NA	NA	√	√	√
Cool store	NA	XX	√	XX	NA	XX	√	NA	NA	XX	√	XX
Controlled atmosphere	NA	XX	√	XX	NA	XX	√	NA	NA	XX	√	XX
Volume	NA	X	√	X	NA	X	√	NA	NA	X	√	X
Range of size	NA	XX	√	XX	NA	XX	X	NA	NA	XX	√	X
Continuity of supply	NA	X	√	XX	NA	X	√	NA	NA	X	√	XX
Quality assurance	NA	√	√	√	NA	√	√	NA	NA	√	√	√
Storage	NA	X	√	X	NA	X	√	NA	NA	X	√	X
Well graded	NA	X	√	X	NA	√	√	NA	NA	√	√	√
Satisfaction	NA	XX	√	X	NA	√	√	NA	NA	√	X	X
Trust	NA	X	X	XX	NA	X	X	NA	NA	X	√	XX
Commitment	NA	X	√	X	NA	X	√	NA	NA	X	X	X
Communication	NA	√	√	√	NA	X	X	NA	NA	X	√	√
Relationship specific investment	NA	X	X	X	NA	X	X	NA	NA	X	√	X
Dependence	NA	√	√	√	NA	√	X	NA	NA	√	√	X
Power	NA	X	√	√	NA	√	X	NA	NA	√	√	X
Opportunism	NA	X	√	X	NA	√	X	NA	NA	√	√	√

Notes: NA = not applicable,
√ = not a problem,
X = an impediment, and
XX = major impediment

As most of the large scale growers in Cluster One (C1) had the necessary resources to dip, grade, label, pack and store their own fruit, there was no need for them to transact with the fruit packers. Nor did the larger growers trade directly with secondary wholesalers and retailers. This was not because they do not have the ability to fulfil these customers' demands, but rather, it was simply not cost effective for them to transact with these buyers.

For those growers who had transactions with the fruit packers, they either sold their fruit direct to the packers or used their services (under contract) to perform the value-added activities required in dipping, grading, labelling and packing the fruit. Most small scale growers were able to fulfil the packer's demands in term of quality assurance, but most were not satisfied in their relationship with fruit packers because of the low price received. However, most growers intended to continue to transact with fruit packers in the future as they had no other option, other than to invest in their own packing shed.

In terms of the small grower's relationships with market agents, secondary wholesalers, retailers and fruit exporters, it was still necessary for the fruit to be graded and packed prior to sale. Labelling, although not mandatory, would enable the market agents to on-sell the grower's fruit to the supermarkets who demanded a label as a means of identifying the price at the cash register. Dipping was only required where the fruit was to be stored for an extended period of time. As most small scale growers did not have the facilities to store fruit, the fruit was normally sold soon after grading and packing to ensure its freshness.

Fearne and Hughes (2000) and Hingley (2000) in their research in the fresh produce industry in the UK, show that retailers are continuing to reduce the number of suppliers for each product and to concentrate on larger more technically efficient and innovative suppliers. Smaller growers are likely to be excluded from this market because they lack the size or facilities, or they were unable to meet the volume requirements or service levels specified by the retail chains (Dawson and Shaw 1989). The findings of this study reveal that most of the smaller growers only transact with the fruit packers and market agents because of their inability to supply the supermarkets.

In the fresh produce industry, prices are determined primarily by supply and demand. Other than to withdraw some of the fruit from the market and to store it in the hope that prices will improve at some future point in time, there is little an individual grower can do. However, there is some evidence to suggest that the more activities the grower can undertake to add-value, the more the market returns will increase, relative to the prevailing market price. This is where the grower's propensity for risk will influence their decision to spend more to earn more, or whether by spending more they may simply reduce their profits. However, the more activities the growers perform, the better able they are to fulfil their customer's needs. As Hingley (2005) suggests, in order to access markets, producers need to do what is requested by their customers. Growers must align themselves with those customers whose needs they can best fulfil. With the concentration and aggregation that is occurring in fresh produce supply chains, it may be more cost effective for small scale growers to use the services offered by fruit packers.

Unlike the transitional economies, where small scale growers normally have only a very limited marketing horizon (Concepcion *et al.* 2006), growers in Australia know what their customers want and need. Thus, growers know what they can and cannot do in fulfilling these requirements. Therefore, they must select customers whose needs they can most readily fulfil.

Gap analysis enables the growers to better understand their customers wants and needs and the propensity not only of themselves but of different suppliers to meet those needs. By recognising their own strengths and constraints, growers can make an informed choice as to which market intermediaries they can most profitably sell their fruit. Gap

analysis enables the growers to identify which market intermediaries they can exclude, thereby reducing the choice of alternatives.

In the analysis of trading relationships, it is apparent that even where growers do not trust their trading partner, they may continue to trade with that buyer because they offer a better return. Nevertheless, in the absence of trust and with minimal information conveyed between growers and their trading partners, it means that no innovation will be undertaken. Thus, growers cannot help their customers to better meet the next downstream market intermediaries needs. As suggested by Fearne and Hughes (2000), in a highly competitive market like fresh produce, innovation is the only long-term source of competitive advantage.

As the market agents trading in the Perth Metropolitan Market (PMM) have moved towards private negotiation as the primary means for facilitating the transaction between the growers and their downstream customers, price information has become more difficult to obtain. Transacting with multiple customers is the best way of providing an assurance that market agents are working in the grower's best interests. Not only will this lead to improved trust between the growers and their preferred market agents, but it may also identify alternative means for growers to undertake additional value-adding activities.

The use of a pluralistic methodology was helpful in providing both an economic and social evaluation of the trading relationships between growers and their preferred downstream market intermediaries. In particular, the gap analysis and the analysis of long-term relationships provided a clear picture of the social variables involved in the grower's selection of downstream customers and a better understanding of the grower's propensity to fulfil those customers' demands. The transaction

costs analysis captured the financial implications of performing the value added activities and the price incentives received by growers from their preferred trading partners.

10.7 Limitations of the study

From this study of the fresh produce industry in WA, price margin analysis provided the input related costs and returns. However, there was too much variation in the prices and costs obtained from the survey, even after classifying the growers into one of two clusters.

For this study, the sizes of the samples were unavoidably small due to the small size of the industry and the decreasing number of growers in the apple industry. Furthermore, with the constraints on time and the costs involved in undertaking the survey, response rates were inordinately low. There was also a problem with the non disclosure of information from the respondents on prices (by month), storage costs (related to the duration of storage) and packing cost (especially in cartons). The lack of information provided by the respondents during the interviews made it hard for the data to be used effectively.

Furthermore, since few growers and market intermediaries were willing to access their records, the prices at which they both bought and sold apples was very subjective, and errors in reporting were inevitable. As reported by Batt (2003), since there is always some degree of confidentiality associated with the reporting of market prices, respondents may intentionally choose to over-value the prices at which they purchased the produce and under value the price at which it was sold so as to reduce their profit margin. Furthermore, since prices of fresh produce are related to supply and demand, the overall production of the apples during the

time that the study was conducted will influence the prices received by growers. Thus, from a statistical point of view, the chances of making a Type II error during data analysis were increased.

Due to the small sample size, the use of advanced statistical analyses cannot be employed. However, the use of the independent t-test and paired t-test did reveal some significant differences in terms of what the growers wanted and what they actually got from their downstream buyers, while the paired t-test showed significant differences between what the downstream buyers wanted and what they actually received from their preferred suppliers. As a result, it is possible that a non significant t-test result may have been accepted when in fact there was a significant difference between the buyer's expectations and the supplier's performance. The smaller the sample, the more the statistics obtained will diverge from the population parameters.

10.8 Opportunities for future research

Since the sample of respondents was rather limited (a total of 110 actors across the WA apple supply chain), it would be appropriate to undertake a more robust analysis, perhaps at an industry level. WA is quite unique in that no apples may be imported into the state, whereas the markets on the eastern seaboard are more open to the interstate movement of fruit. Accordingly, further research drawing on a much larger sample from different geographic areas of the country would go a long way in strengthening or enhancing the research base. Since there is limited information about the decision making process growers undertake in selecting their trading partners, further research should be undertaken.

Any subsequent study should look at the dyadic relationships between different buyers and suppliers. The interaction between quality and buyer-supplier relationships will provide a fertile area for investigating the impact of quality management practices on the relationship and indeed, the returns growers ultimately receive. By exploring the relationship between preferred and non-preferred buyers and suppliers, additional variables may emerge which will enable the competitiveness of the WA apple industry to be improved

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Appendix 1: Grower's (supplier's) questionnaire

Division of Resources & Environment

Curtin University of Technology

Muresk Institute

GPO Box U1987
Perth WA 6845

Telephone +61 8 9266 4 400
Facsimile +61 8 9266 4 422
Email j.shepherdson@curtin.edu.au
Web www.muresk.curtin.edu.au

Western Australian Apple Industry Survey of Supply Chain Linkages

Dear Grower,

The purpose of this survey is to explore the marketing options available to apple growers in WA. The aim is to map the WA apple supply chain and to identify the various costs and returns associated with each alternative.

While many growers think they can improve returns by selling direct to retailers, additional costs are associated with this option and many growers find that they are unable to meet the terms of trade and the quality standards specified. We also recognise that many supply chain participants transact with preferred customers for both economic and social reasons. In this regard, we wish to explore the importance of the relational dimensions like satisfaction, trust, commitment, communication, relationship specific investment and power/dependence in the apple supply chain. We are confident that the results of this study will enable growers to better meet the needs of their downstream customers and to understand the dynamics of the market.

While I appreciate that many of you may be reluctant to participate in this study at first sight because of the size of this questionnaire, it is unlikely that you will need to answer the whole questionnaire. The questionnaire is structured in such a way as to allow you to only complete those sections that are relevant to you. In most cases I would expect that you will fill out no more than a quarter of the questions.

Your participation in this survey is voluntary; it would be greatly appreciated if you could answer the following questionnaire as open and honestly as possible. After completing the questionnaire please place it in the reply paid, self-addressed envelope and return it without delay.

The information provided in this questionnaire will be strictly confidential and your individual responses will not be provided to a third party in any shape or form. Only the collective results of the survey will be presented. I will be providing industry relevant reports back to growers once the analysis has been completed through the WAFGA newsletter.

If you have any questions or concerns regarding the questionnaire or the research project it is connected with, please contact

Nolila M. Nawi
Muresk Institute of Agriculture,
Curtin University
Telephone (08) 08-92661308
or by email at nolila.mohdnawi@student.curtin.edu.au,

Western Australian Apple Industry
Survey of Supply Chain Linkages

I confirm that:

1) I have been informed of and understand the purposes of the study
2) I have been given an opportunity to ask questions
3) I understand that I can withdraw at any time without prejudice
4) I understand that I can retract and/or alter any statements, opinions and/or views I have made at any time, again without prejudice or negative consequences
5) I understand that any information which might potentially identify me/us will not he used in published material
6) I agree to participate in the study as outlined to me

Name(s) of Participant(s): _____

Signature: _____

Date: _____

PART 1: ABOUT YOUR ORCHARD

1.1 Location of your orchard and/or postcode: ……

1.2 a) Size of farm: ……..

b) Total area planted in fruit trees:.…….

c) Total area planted in apples (hectares): ……

1.3 Number of years you have been growing apples? …….

1.4 a) **FOR 2003 & 2004 HARVEST**, what quantity of apples did you produce?

Variety	2003 (tonnes)	2004 (tonnes)
Granny Smith		
Pink Lady		
Other Varieties		
TOTAL		

b) For 2005, do you expect your production to; (please tick appropriate box below)

a. increase ☐
b. decrease ☐
c. stay the same ☐

c) Why do you expect your production to change?

……
……
……
……

1.5 a) How much did it cost you PER TONNE **to harvest the fruit and to deliver it to your shed**? …… $/tonne

b) Was there any difference in the cost to harvest fruit by variety?

Yes ☐
No ☐

c) If YES, what was the cost to harvest and deliver the fruit to the packing shed for Granny Smith and Pink Lady?

Granny Smith:…… $/tonne
Pink Lady:…….. $/tonne

1.6 a) Did you dip the fruit (for bitter pit/scald) **prior to grading/storing or selling the fruit**?

Yes ☐
No (Go to Question 1.7) ☐

b) If YES, what chemicals did you use?

……
……
……
……

c) **FOR THE 2003 HARVEST**, what percentages (%) of your apples were dipped?

Variety	% Dipped
Granny Smith	
Pink Lady	
TOTAL	

d) What was the approximate cost per tonne to dip this fruit?

…….$/tonne

1.7 a) Did you grade the fruit, **prior to sale or storage**?

Yes ☐
No (Go to Question 1.8) ☐

b) **FOR THE 2003 HARVEST**, what percentage (%) of fruit did you grade prior to sale or storage?

……%

c) Was there any difference in the cost to grade fruit by variety?

d) If NO, what is the approximate cost per tonne to grade the fruit?
…….$/tonne

e) If YES, what was the approximate cost per tonne to grade fruit for each variety?

Granny Smith :……$/tonne
Pink Lady :..……...$/tonne

f) **FOR THE 2003 HARVEST**, what percentage (%) of the fruit harvested fell into each of the following grades by variety?

Variety	Percentage (%)			
	First	Second	Reject	Ungraded
Granny Smith				
Pink Lady				

[For EACH variety, please ensure that your response equals 100%]

g) What do you do with rejected fruit?
……
……
……
……

h) **FOR THE 2003 HARVEST**, by variety what percentage (%) of your first grade fruit was graded into each of the following sizes?

Variety	First Grade by Size (mm) in %		
	< 64	65 - 79	> 80
Granny Smith			
Pink Lady			

[For EACH variety, please ensure that your response equals 100%]

1.8 a) Did you label your fruit prior to sale?

Yes	
No (Go to Question 1.9)	

b) If YES, what is the approximate cost per tonne to label the fruit?
……..$/tonne

1.9 a) Did you store the fruit in either CS or CA **prior to packaging or selling the fruit**?

Yes	
No (Go to Question 1.10)	

b) What percentage (%) of fruit did you store for each variety?

Variety	Cold Storage (%)	Controlled Atmosphere (%)	Did Not Store (%)
Granny Smith			
Pink Lady			

[For EACH variety, please ensure that your response equals 100%]

c) What was the approximate cost per tonne to store this fruit under:
Cold Storage (CS)…….. …….$/tonne
Controlled Atmosphere (CA) ……$/tonne

d) What losses did you incur during storage for each variety?

Variety	Losses in CS (%)	Losses in CA (%)
Granny Smith		
Pink Lady		

1.10 a) Did you **pack the fruit prior to sale**?

Yes ☐
No (Go to Question 1.11) ☐

b) Was there any difference in the cost to pack Granny Smith or Pink Lady?

Yes ☐
No ☐

c) If NO, what were the approximate costs per tonne to pack the fruit into these containers?

RPC:. …….
Cartons: ……..
Bulk bin: …….
Prepacked:. …….

d) If YES, what were the costs to pack each variety in these containers?

Granny Smith (in $ per tonne)	Pink Lady (in $ per tonne)
RPC:	RPC:
Cartons:	Cartons:
Bulk bin:	Bulk bin:
Prepacked:	Prepacked:

e) **FOR THE 2003 HARVEST**, what percentage (%) of your fruit by grade was packed into each of the following containers by variety?

Variety	Grade	RPC	Cartons	Bulk Bin	Prepacked
Granny Smith	First				
	Second				
Pink lady	First				
	Second				

[For EACH variety, please ensure that your response equals 100%]

f) What percentage (%) of your **first grade fruit** by size was packed into each of the following containers by variety?

Granny Smith

First Grade By size (mm)	Containers type (%)			
	RPC	Cartons	Bulk Bin	Pre-Packed
<64				
65 – 69				
>80				

[For EACH variety, please ensure that your response equals 100%]

Pink Lady

First Grade By size (mm)	Containers type (%)			
	RPC	Cartons	Bulk Bin	Pre-Packed
<64				
65 – 69				
>80				

[For EACH variety, please ensure that your response equals 100%]

1.11 **FOR THE 2003 HARVEST**, by variety what percent of the fruit that you produced was sold to:

Intermediaries	Percentage (%)	
	Granny Smith	Pink Lady
Fruit Packers		
Grower Cooperatives		
Market Agent		
Provedores		
Supermarkets		
Other Retailers		
Fruit Processors		
Fruit Exporters		
Others (please specify)		

[For EACH variety, please ensure that your response equals 100%]

1.12 a) Were you responsible for the cost of delivering the fruit to your buyer?

Yes	
No (Go to Question 1.13)	

b) If YES, on average how much did it cost PER TONNE to deliver the fruit to each of the following market intermediaries?

Intermediaries	Delivery cost PER TONNE
Fruit Packer	
Grower Cooperatives	
Market Agent	
Provedores	
Supermarket	
Other Retailers	
Fruit Processors	
Fruit Exporters	
Others (please specify)	

1.13 a) What criteria do you use in deciding to whom you would sell your fruit?

……
……
……
……

b) Please indicate how important each of the following factors **were to you when choosing between alternative market intermediaries**. Please circle the appropriate response where 1 is "not at all important" and 6 is "very important".

	Not at all important					Very important
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

1.14 a) What criteria do you think are most important in your buyers' decision to purchase apples from you?

……
……..……
……...……
……..……

b) On a scale of 1 to 6, where 1 is "not at all important" and 6 is "very important", please indicate how important you believe EACH of the following criteria **were to your market intermediaries in choosing between alternative growers?**

	Not at all important					Very important
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
ability to deliver apples when required	1	2	3	4	5	6
willingness to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
be able to give credit (deferred payment)	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

[NOW PLEASE GO TO PART TWO – LIGHT BLUE PAGES]

PART 2:
FRUIT PACKER

Do you supply apples to a fruit packer?

Yes (Go to Question 2.1)	
No	

If NO, why don't you trade with fruit packers?

……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.

[PART 3 – NEXT LOT OF WHITE PAGES]

2.1 How many fruit packers do you deal with? …….(number)

2.2 a) Why did you decide to sell apples to fruit packers?
……
……
……
……

b) To what extent is your **preferred fruit packer able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred fruit packer can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

2.3 What do you think are the most important things that prevent your preferred fruit packer from meeting your needs?
……
……
……
……

2.4 a) What criteria do you think are most important in your preferred fruit packer's decision to purchase apples from you?
……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred fruit packer's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well" please indicate how well you think you met EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

2.5 a) What are the most important things that prevent you from meeting your preferred fruit packer's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred fruit packer's needs?

…….
……
……...……...
……

c) What things stop you from meeting your preferred fruit packer's needs?

……..
...……
…….…….
……..

2.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred fruit packer?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

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Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

2.7 a) How would you describe the nature of your relationship with your preferred fruit packer?

……
……
……
……

b) Can you please name your most preferred fruit packer (optional)?

……

c) For how many years have you been trading with this fruit packer?

……

2.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred fruit packer	1	2	3	4	5	6
My transactions with my preferred fruit packer have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred fruit packer	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer treats me fairly and equitably	1	2	3	4	5	6

TRUST						
I trust my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer has a reputation for being fair	1	2	3	4	5	6
My preferred fruit packer is always honest	1	2	3	4	5	6
My preferred fruit packer often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer always considers my best interests	1	2	3	4	5	6
My preferred fruit packer always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred fruit packer	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred fruit packer in the future	1	2	3	4	5	6
I expect my relationship with my preferred fruit packer to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred fruit packer rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred fruit packer keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred fruit packer frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred fruit packer frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred fruit packer often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred fruit packer is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred fruit packer provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another fruit packer at any time	1	2	3	4	5	6
My preferred fruit packer has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred fruit packer has all the power in our relationship	1	2	3	4	5	6
My preferred fruit packer controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred fruit packer sometimes acts opportunistically	1	2	3	4	5	6

PART 3: GROWER COOPERATIVE

Do you supply apples to a grower cooperative?

Yes (Go to Question 3.1)	
No	

If NO, why don't you trade with grower cooperatives?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.

[PART 4 – NEXT LOT OF LIGHT BLUE PAGES]

3.1 How many grower cooperatives do you deal with? ……(number)

3.2 a) Why did you decide to sell apples to grower cooperatives?

……
……
……
……

b) To what extent is **your preferred grower cooperative able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred grower cooperative can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

3.3 What do you think are the most important things that prevent your preferred grower cooperative from meeting your needs?

……
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……
……

3.4 What criteria do you think are most important in your preferred grower cooperative's decision to purchase apples from you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred grower cooperative's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

3.5 a) What are the most important things that prevent you from meeting your preferred grower cooperative's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred grower cooperative's needs?

……..
……..
……...
……..

c) What things stop you from meeting your preferred grower cooperative's needs?

……
……
……
……

3.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred grower cooperative?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

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Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

3.7 a) How would you describe the nature of your relationship with your preferred grower cooperative?

……
……
……
……

b) Can you please name your most preferred grower cooperative (optional) ……..

c) How many years have you been trading with this grower cooperative?

……

3.8 On scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred grower cooperative	1	2	3	4	5	6
My transactions with my preferred grower cooperative have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred grower cooperative	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative has a reputation for being fair	1	2	3	4	5	6
My preferred grower cooperative is always honest	1	2	3	4	5	6
My preferred grower cooperative often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative always considers my best interests	1	2	3	4	5	6
My preferred grower cooperative always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred grower cooperative	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred grower cooperative in the future	1	2	3	4	5	6
I expect my relationship with my preferred grower cooperative to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred grower cooperative rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred grower cooperative keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred grower cooperative frequently asks me how they might improve the level of product quality	1	2	3	4	5	6

My preferred grower cooperative frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred grower cooperative often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred grower cooperative is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred grower cooperative provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another grower cooperative at any time	1	2	3	4	5	6
My preferred grower cooperative has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred grower cooperative has all the power in our relationship	1	2	3	4	5	6
My preferred grower cooperative controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred grower cooperative sometimes acts opportunistically	1	2	3	4	5	6

PART 4: MARKET AGENT

Do you supply apples to a market agent?

Yes (Go to Question 4.1)	
No	

If NO, why don't you trade with market agents?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.

[PART 5 – NEXT LOT OF WHITE PAGES]

4.1 How many market agents do you deal with? ……(number)

4.2 a) Why did you decide to sell apples to a market agent?
……
……
……
……

b) To what extent is your **preferred market agent able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred market agent can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

4.3 What do you think are the most important things that prevent your preferred market agent from meeting your needs?
……
……
……
……

4.4 What criteria do you think are most important in your preferred market agent's decision to buy apples from you?
……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred market agent's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

4.5 a) What are the most important things that prevent you from meeting your preferred market agent's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred market agent's needs?

……..
……..
……...……
……..

c) What things stop you from meeting your preferred market agent's needs?

……
……
……
……

4.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred market agent?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

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Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

4.7 a) How would you describe the nature of your relationship with your preferred market agent?

……
……
……
……

b) Can you please name your preferred market agent (optional)?

……

c) How many years have you been trading with this market agent?

……

4.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred market agent	1	2	3	4	5	6
My preferred market agent purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred market agent	1	2	3	4	5	6
My transactions with my preferred market agent have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred market agent	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred market agent	1	2	3	4	5	6
My preferred market agent treats me fairly and equitably	1	2	3	4	5	6

TRUST						
I trust my preferred market agent	1	2	3	4	5	6
My preferred market agent has a reputation for being fair	1	2	3	4	5	6
My preferred market agent is always honest	1	2	3	4	5	6
My preferred market agent often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred market agent	1	2	3	4	5	6
My preferred market agent always considers my best interests	1	2	3	4	5	6
My preferred market agent always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred market agent	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred market agent in the future	1	2	3	4	5	6
I expect my relationship with my preferred market agent to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred market agent rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred market agent keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred market agent frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred market agent frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred market agent often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred market agent is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred market agent provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another market agent at any time	1	2	3	4	5	6
My preferred market agent has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred market agent has all the power in our relationship	1	2	3	4	5	6
My preferred market agent controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred market agent sometimes acts opportunistically	1	2	3	4	5	6

PART 5: SECONDARY WHOLESALER (PROVEDORE)

Do you supply apples to a secondary wholesaler/provedore?

Yes (Go to Question 5.1)	☐
No	☐

If NO, why don't you trade with provedores?

……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.

[PART 6 – NEXT LOT OF LIGHT BLUE PAGES]

5.1 How many provedores do you deal with? ……..(number)

5.2 a) Why did you decide to sell apples to a provedore?
……
……
……
……

b) To what extent is **your preferred provedore able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred provedore can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

5.3 What do you think are the most important things that prevent your preferred provedore from meeting your needs?
……
……
……
……

5.4 a) What criteria do you think are most important in your preferred provedore's decision to purchase apples from you?
……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred provedore's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

5.5 a) What are the most important things that prevent you from meeting your preferred provedore's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred provedore's needs?

……..
……..
……...……
……..

c) What things stop you from meeting your preferred provedore's needs?

……
……
……
……

5.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred provedore?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

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Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

5.7 a) How would you describe the nature of your relationship with your preferred provedores?

……
……
……
……

b) Can you please name your most preferred provedore (optional)?

……

c) How many years have you been trading with this provedore?

……

5.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred provedore	1	2	3	4	5	6
My preferred provedore purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred provedore	1	2	3	4	5	6
My transactions with my preferred provedore have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred provedore	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred provedore	1	2	3	4	5	6
My preferred provedore treats me fairly and equitably	1	2	3	4	5	6

TRUST						
I trust my preferred provedore	1	2	3	4	5	6
My preferred provedore has a reputation for being fair	1	2	3	4	5	6
My preferred provedore is always honest	1	2	3	4	5	6
My preferred provedore often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred provedore	1	2	3	4	5	6
My preferred provedore always considers my best interests	1	2	3	4	5	6
My preferred provedore always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred provedore	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred provedore in the future	1	2	3	4	5	6
I expect my relationship with my preferred provedore to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred provedore rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred provedore keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred provedore frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred provedore frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred provedore often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred provedore is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred provedore provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another provedore at any time	1	2	3	4	5	6
My preferred provedore has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred provedore has all the power in our relationship	1	2	3	4	5	6
My preferred provedore controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred provedore sometimes acts opportunistically	1	2	3	4	5	6

PART 6: SUPERMARKET

Do you supply apples direct to a supermarket?

Yes (Go to Question 6.1)	☐
No	☐

If NO, why don't you trade with the supermarkets?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.

[PART 7 – NEXT LOT OF WHITE PAGES]

6.1 How many supermarkets do you deal with? …….(number)

6.2 a) Why did you decide to sell apples to a supermarket?
……
……
……
……

b) To what extent is **your preferred supermarket able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred supermarket can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

6.3 What do you think are the most important things that prevent your preferred supermarket from meeting your needs?
……
……
……
……

6.4 a) What criteria do you think are most important in your preferred supermarket's decision to purchase apples from you?
……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred supermarket's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

6.5 a) What are the most important things that prevent you from meeting your preferred supermarket's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred supermarket's needs?

……..
……..
……...……
……..

c) What things stop you from meeting your preferred supermarket's needs?

……
……
……
……

6.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred supermarket?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

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Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

6.7 a) How would you describe the nature of your relationship with your preferred supermarkets?

……
……
……
……

b) Can you please name your most preferred supermarket (optional)?

……

c) How many years have you been trading with this supermarket?

……

6.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred supermarket	1	2	3	4	5	6
My preferred supermarket purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred supermarket	1	2	3	4	5	6
My transactions with my preferred supermarket have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred supermarket	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred supermarket	1	2	3	4	5	6
My preferred supermarket treats me fairly and equitably	1	2	3	4	5	6

TRUST						
I trust my preferred supermarket	1	2	3	4	5	6
My preferred supermarket has a reputation for being fair	1	2	3	4	5	6
My preferred supermarket is always honest	1	2	3	4	5	6
My preferred supermarket often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred supermarket	1	2	3	4	5	6
My preferred supermarket always considers my best interests	1	2	3	4	5	6
My preferred supermarket always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred supermarket	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred supermarket in the future	1	2	3	4	5	6
I expect my relationship with my preferred supermarket to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred supermarket rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred supermarket keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred supermarket frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred supermarket frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred supermarket often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred supermarket is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred supermarket provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another supermarket at any time	1	2	3	4	5	6
My preferred supermarket has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred supermarket has all the power in our relationship	1	2	3	4	5	6
My preferred supermarket controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred supermarket sometimes acts opportunistically	1	2	3	4	5	6

PART 7:
OTHER RETAILERS
(NOT A SUPERMARKET)

Do you supply apples direct to a retailer?

Yes (Go to Question 7.1)	
No	

If NO, why don't you trade with retailers?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.

[PART 8 – NEXT LOT OF LIGHT BLUE PAGES]

7.1 How many retailers do you deal with? …….(number)

7.2 a) Why did you decide to sell apples direct to a retailer?

……
……
……
……

c) To what extent is **your preferred retailer able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred retailer can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

7.3 What do you think are the most important things that prevent your preferred retailer from meeting your needs?

……
……
……
……

7.4 a) What criteria do you think are most important in your preferred retailer's decision to purchase apples from you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred retailer's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

7.5 a) What are the most important things that prevent you from meeting your preferred retailer's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred retailer's needs?

……..
……..
……...……
……..

c) What things stop you from meeting your preferred retailer's needs?

……
……
……
……

7.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred retailer?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

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Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

7.7 a) How would you describe the nature of your relationship with your preferred retailers?

……
……
……
……

b) Can you please name your most preferred retailer (optional)?

……

c) How many years have you been trading with this retailer?

……

7.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred retailer	1	2	3	4	5	6
My preferred retailer purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred retailer	1	2	3	4	5	6
My transactions with my preferred retailer have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred retailer	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred retailer	1	2	3	4	5	6
My preferred supermarket treats me fairly and equitably	1	2	3	4	5	6

TRUST						
I trust my preferred retailer	1	2	3	4	5	6
My preferred retailer has a reputation for being fair	1	2	3	4	5	6
My preferred retailer is always honest	1	2	3	4	5	6
My preferred retailer often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred retailer	1	2	3	4	5	6
My preferred retailer always considers my best interests	1	2	3	4	5	6
My preferred retailer always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred retailer	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred retailer in the future	1	2	3	4	5	6
I expect my relationship with my preferred retailer to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred retailer rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred retailer keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred retailer frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred retailer frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred retailer often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred retailer is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred retailer provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another retailer at any time	1	2	3	4	5	6
My preferred retailer has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred retailer has all the power in our relationship	1	2	3	4	5	6
My preferred retailer controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred retailer sometimes acts opportunistically	1	2	3	4	5	6

PART 8:
FRUIT PROCESSOR

Do you supply apples to a fruit processor?

Yes (Go to Question 8.1)	
No	

If NO, why don't you trade with fruit processors?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.
[PART 9 – NEXT LOT OF WHITE PAGES]

8.1 How many fruit processors do you deal with? ……(number)

8.2 a) Why did you decide to sell apples to a fruit processor?
……
……
……
……

b) To what extent is **your preferred fruit processor able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred fruit processor can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

8.3 What do you think are the most important things that prevent your preferred fruit processor from meeting your needs?
……
……
……
……

8.4 a) What criteria do you think are most important in your preferred fruit processor's decision to purchase apples from you?
……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred fruit processor's needs** for EACH of the following criteria. On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well" please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

8.5 a) What are the most important things that prevent you from meeting your preferred fruit processor's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred fruit processor's needs?

……..
……..
……...……
……..

c) What things stop you from meeting your preferred fruit processor's needs?

……
……
……
……

8.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety from your preferred fruit processor?

Variety	Granny Smith	Pink Lady
Highest		
Average		
Lowest		

8.7 a) How would you describe the nature of your relationship with your preferred fruit processors?

……
……
……
……

b) Can you please name your most preferred fruit processor (optional)?

……

c) How many years have you been trading with this fruit processor?

……

8.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred fruit processor	1	2	3	4	5	6
My preferred fruit processor purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred fruit processor	1	2	3	4	5	6
My transactions with my preferred fruit processor have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred fruit processor	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred fruit processor	1	2	3	4	5	6
My preferred fruit processor treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred fruit processor	1	2	3	4	5	6
My preferred fruit processor has a reputation for being fair	1	2	3	4	5	6

My preferred fruit processor is always honest	1	2	3	4	5	6
My preferred fruit processor fruit processor often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred fruit processor	1	2	3	4	5	6
My preferred fruit processor always considers my best interests	1	2	3	4	5	6
My preferred fruit processor always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred fruit processor	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred fruit processor in the future	1	2	3	4	5	6
I expect my relationship with my preferred fruit processor to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred fruit processor rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred fruit processor keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred fruit processor frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred fruit processor frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred fruit processor often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred fruit processor is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred fruit processor provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another fruit processor at any time	1	2	3	4	5	6
My preferred fruit processor has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred fruit processor has all the power in our relationship	1	2	3	4	5	6
My preferred fruit processor controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred fruit processor sometimes acts opportunistically	1	2	3	4	5	6

PART 9:
FRUIT EXPORTER

Do you supply apples direct to a fruit exporter?

Yes (Go to Question 9.1)	☐
No	☐

If NO, why don't you trade with fruit exporters?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above.
[THANK YOU]

9.1 How many fruit exporters do you deal with? ……(number)

9.2 a) Why did you decide to sell apples direct to a fruit exporter?
……
……
……
……

b) To what extent is **your preferred fruit exporter able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred fruit exporter can meet EACH of these criteria.

	Not at all well					Very well
able to take all my harvested fruit	1	2	3	4	5	6
provide me with a fair price	1	2	3	4	5	6
offers favourable payment terms	1	2	3	4	5	6
is financially strong	1	2	3	4	5	6
has a good business reputation	1	2	3	4	5	6
provides technical information/advice	1	2	3	4	5	6
provides market information	1	2	3	4	5	6
can transport apples from my orchard	1	2	3	4	5	6
is willing to meet my immediate needs	1	2	3	4	5	6
is geographically close to me	1	2	3	4	5	6
we have a close personal relationship	1	2	3	4	5	6
is in frequent communication with me	1	2	3	4	5	6

9.3 What do you think are the most important things that prevent your preferred fruit exporter from meeting your needs?
……
……
……
……

9.4 a) What criteria do you think are most important in your preferred fruit exporter's decision to purchase apples from you?
……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred fruit exporter's needs** for EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet their immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

9.5 a) What are the most important things that prevent you from meeting your preferred fruit exporter's needs?

……
……
……
……

b) What things can you do to improve your ability to fulfil your preferred fruit exporter's needs?

……
……
……
……

c) What things stop you from meeting your preferred fruit exporter's needs?

……
……
……
……

9.6 **FOR THE 2003 HARVEST**, what were the lowest, highest and average prices you received **per tonne** by variety and grade from your preferred fruit exporter?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

Pink Lady

Pink Lady	First Grade by Size (mm)			Second Grade
	< 64	65 - 79	> 80	
Highest				
Average				
Lowest				

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9.7 a) How would you describe the nature of your relationship with your preferred fruit exporter?

……
……
……
……

b) Can you please name your most preferred fruit exporter (optional)?

……

c) How many years have you been trading with this fruit exporter?

……

9.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred fruit exporter	1	2	3	4	5	6
My preferred fruit exporter purchased my produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price received from my preferred fruit exporter	1	2	3	4	5	6
My transactions with my preferred fruit exporter have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred fruit exporter	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred fruit exporter	1	2	3	4	5	6
My preferred fruit exporter treats me fairly and equitably	1	2	3	4	5	6

TRUST						
I trust my preferred fruit exporter	1	2	3	4	5	6
My preferred fruit exporter has a reputation for being fair	1	2	3	4	5	6
My preferred fruit exporter always honest	1	2	3	4	5	6
My preferred fruit exporter fruit processor often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred fruit exporter	1	2	3	4	5	6
My preferred fruit exporter always considers my best interests	1	2	3	4	5	6
My preferred fruit exporter always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred fruit exporter	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred fruit exporter in the future	1	2	3	4	5	6
I expect my relationship with my preferred fruit exporter to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred fruit exporter rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred fruit exporter keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred fruit exporter frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred fruit exporter frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred fruit exporter often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred fruit exporter is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred fruit exporter provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another fruit exporter at any time	1	2	3	4	5	6
My preferred fruit exporter has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred fruit exporter has all the power in our relationship	1	2	3	4	5	6
My preferred fruit exporter controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred fruit exporter sometimes acts opportunistically	1	2	3	4	5	6

[**THANK YOU**]

Appendix 2: Retailer's (buyer's) questionnaire

Division of Resources & Environment

Curtin University of Technology

Muresk Institute

GPO Box U1987
Perth WA 6845

Telephone +61 8 9266 4400
Facsimile +61 8 9266 4422
Email j.shepherdson@curtin.edu.au
Web www.muresk.curtin.edu.au

Western Australian Apple Industry Survey of Supply Chain Linkages

Dear Retailer,

This survey has been put together to explore the marketing options available to apple growers in WA. The aim is to map the WA apple supply chain and to identify the various costs and returns associated with each alternative.

While many growers think they can improve returns by selling direct to retailers, additional costs are associated with this option and many growers find that they are unable to meet the terms of trade and the quality standards specified. We also recognise that many supply chain participants transact with preferred customers for both economic and social reasons. In this regard, we intend to explore the importance of the relational dimensions like satisfaction, trust, commitment, communication and power/dependence in the apple supply chain.

While I appreciate that many of you may be reluctant to participate in this study at first sight because of the size of this questionnaire, it is unlikely that you will need to answer the whole questionnaire. The questionnaire is structured in such a way as to allow you to only complete those sections that are relevant to you. In most cases I would expect that you will fill out no more than a quarter of the questions.

Your participation in this survey is voluntary.

Please note: The information requested in this questionnaire will be strictly confidential and your individual responses will not be provided to a third party in any shape or form. Only the collective results of the survey will be presented. I will be providing industry relevant reports back to growers once the analysis has been completed through the WAFGA newsletter.

If you have any questions or concerns regarding the questionnaire or the research project it is connected with, please contact Nolila M. Nawi at the Muresk Institute of Agriculture, Curtin University by telephoning (08) 08-92661308 or by email at nolila.mohdnawi@student.curtin.edu.au, or if you would like to talk to the project supervisors you may contact:

1) Professor Murray McGregor at Muresk Institute of Agriculture,
   Curtin University of Technology, Northam WA 6401
   Tel: (08) 9690 1567 or Email: M.Mcgregor@curtin.edu.au
2) Dr Peter Batt at Muresk Institute of Agriculture,
   Curtin University of Technology, Bentley WA 6845
   Tel: (08) 9266 7596 or Email: p.batt@curtin.edu.au.

Thank you for finding the time to read through these pages and I thank you in advance for your participation. Your effort is greatly appreciated.

Western Australian Apple Industry
Survey of Supply Chain Linkages

I confirm that:

1) I have been informed of and understand the purposes of the study
2) I have been given an opportunity to ask questions
3) I understand that I can withdraw at any time without prejudice
4) I understand that I can retract and/or alter any statements, opinions and/or views I have made at any time, again without prejudice or negative consequences
5) I understand that any information which might potentially identify me/us will not he used in published material
6) I agree to participate in the study as outlined to me

Name(s) of Participant(s): _____

Signature: _____

Date: _____

PART 1: ABOUT YOUR BUSINESS

1.1 a) ID: ……...

b) Types of retail store:

a. Supermarket	
b. Independently owned supermarket	
c. Greengrocer	
d. Other (eg) Fremantle/Subiaco market	

1.2 For how many years have you been buying/selling apples?……

1.3 a) **FOR 2003 and 2004**, what quantity of apples did you purchase?

Variety	2003 (tonnes or kg)	2004 (tonnes or kg)
Granny Smith		
Pink Lady		
Other Varieties		
TOTAL		

b) For 2005 do you expect your sales to; (please tick appropriate box below)

a. increase	
b. decrease	
c. stay the same	

c) If you answered a or b why do you expect your sales to change?

……
……
……
……

1.4 a) **FOR 2003**, what quantity of Granny Smith and Pink Lady apples did you purchase from EACH of the following suppliers?

Suppliers	**Tonnes or Kg**	
	Granny Smith	**Pink Lady**
Growers		
Fruit packers		
Grower cooperatives		
Market agents		
Retail Cooperative (FAL)		
Other (please specify)		

b) **FOR 2003**, what quantity of the fruit purchased from your suppliers fell into each of the following grades?

Variety	Tonnes or Kg			
	First	Second	Ungraded	**TOTAL**
Granny Smith				
Pink Lady				

c) Do you grade/regrade the apples purchased before resale?

Yes ☐
No (Go to Question 1.5) ☐

d) If YES, how much does it cost to grade/regrade the apples for each variety?

Granny Smith :……
Pink Lady :……

1.5 a) Were you responsible for the costs of receiving fruit from your suppliers?

Yes ☐
No (Go to Question 1.6) ☐

b) If YES, on average how much did it cost PER TONNE / KG to receive fruit from EACH of the following suppliers?

Suppliers	Delivery cost PER TONNE / KG
Growers	
Fruit Packers	
Grower Cooperatives	
Market agents	
Retail Cooperative (FAL)	
Other (please specify)	

1.6 a) Do you store the apples you have purchased prior to re-packing or re-selling the fruit?

Yes ☐
No (Go to Question 1.7) ☐

b) If YES, for how many days do you store the apples?
……..

c) How much does it cost to store the apples for this period of time?
……. $/tonnne

d) What percentage of losses do you experience in storage for each variety?

Granny Smith : ……
Pink Lady :…….

1.7 a) What criteria do you use in deciding from whom you will purchase apples?
……
……
……
……

b) On a scale of 1 to 6, where 1 is "not at all important" and 6 is "very important", please indicate how important EACH of the following criteria **were to you** in choosing between alternative apple suppliers?

	Not at all Important					Very important
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
be able to deliver apples when required	1	2	3	4	5	6
be willing to meet my immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
be prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruits	1	2	3	4	5	6

1.8 In comparing different suppliers, what costs do you incur and what benefits do you obtain by purchasing apples from these different sources?

……
……
……
……

1.9 a) Are your sales constant all year round?

Yes	
No	

b) If NO, at what time of the year do sales peak?

……
……
……
……

c) **FOR 2003**, what quantity of apples did you sell by variety EACH month?

Months	Variety (Tonnes)	
	Granny Smith	Pink Lady
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

1.10a) What criteria do you think are important to your customers in choosing from which retailer they will purchase fruit?

……
……
……
……

b) What are the most important things that prevent you from meeting your perceived customer's needs?

……
……
……
……

c) What things do you believe you can do to improve the quality of the apples that you provide to your customers?

……
……
……
……

[CONTINUE TO THE NEXT SECTION – PART 2]

PART 2: GROWER

Do you buy apples direct from a grower?

Yes (Go to Question 2.1)	☐
No	☐

If NO, why don't you trade with growers?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.
[PART 3]

2.1 How many growers do you deal with? ……. (number)

2.2 a) Why do you buy apples direct from growers?

……
……
……
……

b) Are there any differences in the offer quality of apples from different growers?

Yes ☐
No ☐

c) If YES, in what way does the offer quality differ between growers?

……
……
……
……

d) Thinking about your MOST PREFERRED GROWER, to what extent is **your most preferred grower able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred grower can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet my immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

2.3 a) What are the most important things that prevent your preferred grower from meeting your needs?

……
……
……
……

b) What do you think your preferred grower can do to improve the quality of apples they supply?

……
……
……
……

2.4 **FOR 2003**, what quantity or percentage of the apples purchased from growers fell into each of the following grades?

Variety	Tonnes or %			
	First	Second	Ungraded	**TOTAL**
Granny Smith				
Pink Lady				

2.5 **FOR 2003**, what were the lowest, highest and average prices you paid per tonne for apples, by variety and grade, to your preferred grower?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

Pink Lady

Pink Lady	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 – 79	> 80		
Highest					
Average					
Lowest					

2.6 a) What criteria do you think are most important in your preferred grower's decision to sell apples to you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred grower's needs** on EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
able to take all the growers harvested fruit	1	2	3	4	5	6
provide the grower with a fair price	1	2	3	4	5	6
offer favourable payment terms	1	2	3	4	5	6
financially strong	1	2	3	4	5	6
have a good business reputation	1	2	3	4	5	6
provide technical information/advice	1	2	3	4	5	6
provide market information	1	2	3	4	5	6
can transport apples from the growers orchard	1	2	3	4	5	6
willing to meet the growers immediate needs	1	2	3	4	5	6
geographically close to the grower	1	2	3	4	5	6
have a close personal relationship	1	2	3	4	5	6
in frequent communication with the grower	1	2	3	4	5	6

c) What are the most important things that prevent you from meeting your preferred grower's needs?

……
……
……
……

d) What things do you believe you can do to improve your ability to fulfil your preferred grower's needs?

……
……
……
……

2.7 a) How would you describe the nature of your relationship with your preferred grower?

……
……
……
……

b) Can you please name your most preferred grower (optional)?

……

c) How many years have you been trading with this grower?

……

2.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred grower	1	2	3	4	5	6
My preferred grower sold their produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price paid to my preferred grower	1	2	3	4	5	6
My transactions with my preferred grower have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred grower	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred grower	1	2	3	4	5	6
My preferred grower treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred grower	1	2	3	4	5	6
My preferred grower has a reputation for being fair	1	2	3	4	5	6
My preferred grower is always honest	1	2	3	4	5	6
My preferred grower often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred grower	1	2	3	4	5	6
My preferred grower always considers my best interests	1	2	3	4	5	6
My preferred grower always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred grower	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred grower in the future	1	2	3	4	5	6
I expect my relationship with my preferred grower to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred grower rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred grower keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred grower frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred grower frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred grower often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred grower is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred grower provides financial assistance during difficult times	1	2	3	4	5	6

DEPENDENCE						
I am free to choose another grower at any time	1	2	3	4	5	6
My preferred grower has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred grower has all the power in our relationship	1	2	3	4	5	6
My preferred grower controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred grower sometimes acts opportunistically	1	2	3	4	5	6

PART 3:
FRUIT PACKER

Do you buy apples from a fruit packer?

Yes (Go to Question 3.1)	☐
No	☐

If NO, why don't you trade with fruit packers?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.
[PART 4]

3.1 How many fruit packers do you deal with? …….(number)

3.2 a) Why do you buy apples from fruit packers?

……
……
……
……

b) Are there any differences in the offer quality of apples from different fruit packers?

Yes	
No	

b) If YES, in what way does the offer quality differ between fruit packers?

……
……
……
……

d) Thinking about your MOST PREFERRED FRUIT PACKER, to what extent is **your most preferred fruit packer able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred fruit packer can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet my immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

3.3 a) What are the most important things that prevent your preferred fruit packer from meeting your needs?

……
……
……
……

b) What do you think your preferred fruit packer can do to improve the quality of apples they supply?

……
……
……
……

3.4 **FOR 2003**, what quantity or percentage of the fruit purchased from fruit packers fell into each of the following grades?

Variety	Tonnes or %			
	First	Second	Ungraded	**TOTAL**
Granny Smith				
Pink Lady				

3.5 **FOR 2003**, what were the lowest, highest and average prices you paid per tonne for apples, by variety and grade, to your preferred fruit packer?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

Pink Lady

Pink Lady	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

3.6 a) What criteria do you think are most important in your preferred fruit packer's decision to sell apples to you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred fruit packer's needs** on EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
able to take all the fruit packers fruit	1	2	3	4	5	6
provide the fruit packer with a fair price	1	2	3	4	5	6
offer favourable terms of payment	1	2	3	4	5	6
financially strong	1	2	3	4	5	6
have a good reputation for doing business	1	2	3	4	5	6
offer to provide technical information	1	2	3	4	5	6
willing to provide market information	1	2	3	4	5	6
can transport apples from the fruit packer premises	1	2	3	4	5	6
willing to meet the fruit packers immediate needs	1	2	3	4	5	6
geographically close to the fruit packer	1	2	3	4	5	6
have a close personal relationship with fruit packer	1	2	3	4	5	6
in frequent communication with the fruit packer	1	2	3	4	5	6

c) What are the most important things that prevent you from meeting your preferred fruit packer's needs?

……
……
……
……

d) What things do you believe you can do to improve your ability to fulfil your preferred fruit packer's needs?

……
……
……
……

3.7 a) How would you describe the nature of your relationship with your preferred fruit packer?

……
……
……
……

b) Can you please name your most preferred fruit packer (optional)?

……

c) How many years have you been trading with this fruit packer?

……

3.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer sold their produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price paid to my preferred fruit packer	1	2	3	4	5	6
My transactions with my preferred fruit packer have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred fruit packer	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer has a reputation for being fair	1	2	3	4	5	6
My preferred fruit packer is always honest	1	2	3	4	5	6
My preferred fruit packer often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred fruit packer	1	2	3	4	5	6
My preferred fruit packer always considers my best interests	1	2	3	4	5	6
My preferred fruit packer always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred fruit packer	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred fruit packer in the future	1	2	3	4	5	6
I expect my relationship with my preferred fruit packer to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred fruit packer rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred fruit packer keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred fruit packer frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred fruit packer frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred fruit packer often advises me of potential supply problems	1	2	3	4	5	6

RELATIONSHIP SPECIFIC INVESTMENT						
My preferred fruit packer is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred fruit packer provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another fruit packer at any time	1	2	3	4	5	6
My preferred fruit packer has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred fruit packer has all the power in our relationship	1	2	3	4	5	6
My preferred fruit packer controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred fruit packer sometimes acts opportunistically	1	2	3	4	5	6

PART 4: GROWER COOPERATIVE

Do you buy apples from a grower cooperative?

Yes (Go to Question 4.1)	☐
No	☐

If NO, why don't you trade with grower cooperatives?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.
[PART 5]

4.1 How many grower cooperatives do you deal with? ……(number)

4.2 a) Why do you buy apples from grower cooperatives?
……
……
……
……

b) Are there any differences in the offer quality of apples from different grower cooperatives?

Yes	
No	

c) If YES, in what way does the offer quality differ between grower cooperatives?
……
……
……
……

d) Thinking about your MOST PREFERRED GROWER COOPERATIVE, to what extent is **your most preferred grower cooperative able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred grower cooperative can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet my immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

4.3 a) What are the most important things that prevent your preferred grower cooperative from meeting your needs?

……
……
……
……

b) What do you think your preferred grower cooperative can do to improve the quality of apples they supply?

……
……
……
……

4.4 **FOR 2003,** what quantity or percentage of the fruit purchased from grower cooperatives fell into each of the following grades?

Variety	Tonnes or %			
	First	Second	Ungraded	**TOTAL**
Granny Smith				
Pink Lady				

4.5 **FOR 2003**, what were the lowest, highest and average prices you paid per tonne for apples, by variety and grade, to your preferred grower cooperative?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

Pink Lady

Pink Lady	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

4.6 a) What criteria do you think are most important in your preferred grower cooperative's decision to sell apples to you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred grower cooperative's needs** on EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
able to take all the grower cooperative's fruit	1	2	3	4	5	6
provide the grower cooperative with a fair price	1	2	3	4	5	6
offer favourable terms of payment	1	2	3	4	5	6
financially strong	1	2	3	4	5	6
has a good reputation for doing business	1	2	3	4	5	6
offer to provide technical information	1	2	3	4	5	6
willing to provide market information	1	2	3	4	5	6
can transport apples from the grower cooperative's premises	1	2	3	4	5	6
willing to meet the grower cooperative's immediate needs	1	2	3	4	5	6
geographically close to the grower cooperative	1	2	3	4	5	6
have a close personal relationship with grower cooperative	1	2	3	4	5	6
in frequent communication with the grower cooperative	1	2	3	4	5	6

c) What are the most important things that prevent you from meeting your preferred grower cooperative's needs?

……
……
……
……

d) What things do you believe you can do to improve your ability to fulfil your preferred grower cooperative's needs?

……
……
……
……

4.7 a) How would you describe the nature of your relationship with your preferred grower cooperative?

……
……
……
……

b) Can you please name your most preferred grower cooperative (optional)?

……

c) How many years have you been trading with this grower cooperative?

……

4.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative sold their produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price paid to my preferred grower cooperative	1	2	3	4	5	6
My transactions with my preferred grower cooperative have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred grower cooperative	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative has a reputation for being fair	1	2	3	4	5	6
My preferred grower cooperative is always honest	1	2	3	4	5	6
My preferred grower cooperative often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred grower cooperative	1	2	3	4	5	6
My preferred grower cooperative always considers my best interests	1	2	3	4	5	6
My preferred grower cooperative always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred grower cooperative	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred grower cooperative in the future	1	2	3	4	5	6
I expect my relationship with my preferred grower cooperative to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred grower cooperative rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred grower cooperative keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred grower cooperative frequently asks me how they might improve the level of product quality	1	2	3	4	5	6

My preferred grower cooperative frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred grower cooperative often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred grower cooperative is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred grower cooperative provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another grower cooperative at any time	1	2	3	4	5	6
My preferred grower cooperative has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred grower cooperative has all the power in our relationship	1	2	3	4	5	6
My preferred grower cooperative controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred grower cooperative sometimes acts opportunistically	1	2	3	4	5	6

PART 5: MARKET AGENT

Do you buy apples from market agent?

Yes (Go to Question 5.1)	
No	

If NO, why don't you trade with market agents?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above and go to the next section.
[PART 6]

5.1 How many market agents do you deal with? …….(number)

5.2 a) Why do you buy apples from market agents?

……
……
……
……

b) Are there any differences in the offer quality of apples from different market agents?

Yes	
No	

c) If YES, in what way does the offer quality differ between market agents?

……
……
……
……

d) Thinking about your MOST PREFERRED MARKET AGENT, to what extent is **your most preferred market agent able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred market agent can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet my immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

5.3 a) What are the most important things that prevent your preferred market agent from meeting your needs?

……
……
……
……

b) What do you think your preferred market agent can do to improve the quality of apples they supply?

……
……
……
……

5.4 **FOR 2003**, what quantity or percentage of the fruit purchased from market agents fell into each of the following grades?

Variety	Tonnes or %			
	First	Second	Ungraded	**TOTAL**
Granny Smith				
Pink Lady				

5.5 **FOR 2003**, what were the lowest, highest and average prices you paid per tonne for apples, by variety and grade, to your preferred market agent?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

Pink Lady

Pink Lady	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

5.6 a) What criteria do you think are most important in your preferred market agent's decision to sell apples to you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred market agent's needs** on EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
able to take all the market agent's fruit	1	2	3	4	5	6
provide the market agent with a fair price	1	2	3	4	5	6
offer favourable terms of payment	1	2	3	4	5	6
financially strong	1	2	3	4	5	6
have a good reputation for doing business	1	2	3	4	5	6
offer to provide technical information	1	2	3	4	5	6
willing to provide market information	1	2	3	4	5	6
can transport apples from the market agent premises	1	2	3	4	5	6
willing to meet the market agent's immediate needs	1	2	3	4	5	6
geographically close to the market agent	1	2	3	4	5	6
have a close personal relationship with market agent	1	2	3	4	5	6
in frequent communication with the market agent	1	2	3	4	5	6

c) What are the most important things that prevent you from meeting your preferred market agent's needs?

……
……
……
……

d) What things do you believe you can do to improve your ability to fulfil your preferred market agent's needs?

……
……
……
……

5.7 a) How would you describe the nature of your relationship with your preferred market agent?

……
……
……
……

b) Can you please name your most preferred market agent (optional)?

……

c) How many years have you been trading with this market agent?

……

5.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred market agent	1	2	3	4	5	6
My preferred market agent sold their produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price paid to my preferred market agent	1	2	3	4	5	6
My transactions with my preferred market agent have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred market agent	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred market agent	1	2	3	4	5	6
My preferred market agent treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred market agent	1	2	3	4	5	6
My preferred market agent has a reputation for being fair	1	2	3	4	5	6
My preferred market agent is always honest	1	2	3	4	5	6
My preferred market agent often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred market agent	1	2	3	4	5	6
My preferred market agent always considers my best interests	1	2	3	4	5	6
My preferred market agent always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred market agent	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred market agent in the future	1	2	3	4	5	6
I expect my relationship with my preferred market agent to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred market agent rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred market agent keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred market agent frequently asks me how they might improve the level of product quality	1	2	3	4	5	6
My preferred market agent frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred market agent often advises me of potential supply problems	1	2	3	4	5	6

RELATIONSHIP SPECIFIC INVESTMENT						
My preferred market agent is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred market agent provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another market agent at any time	1	2	3	4	5	6
My preferred market agent has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred market agent has all the power in our relationship	1	2	3	4	5	6
My preferred market agent controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred market agent sometimes acts opportunistically	1	2	3	4	5	6

PART 6: RETAIL COOPERATIVE (FAL)

Do you buy apples from retail cooperative?

Yes (Go to Question 6.1)	
No	

If NO, why don't you trade with retail cooperatives?

……
……
……
……
……
……

Only go past this point if you answered YES to the question in the box above.

Otherwise complete the question above.
[THANK YOU]

6.1 How many retail cooperatives do you deal with? ……..(number)

6.2 a) Why do you buy apples from retail cooperatives?

……
……
……
……

b) Are there any differences in the offer quality of apples from different retail cooperatives?

Yes ☐
No ☐

c) If YES, in what way does the offer quality differ between retail cooperatives?

……
……
……
……

d) Thinking about your MOST PREFERRED RETAIL COOPERATIVE, to what extent is **your most preferred retail cooperative able to fulfil your needs**? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think your preferred retail cooperative can meet EACH of these criteria.

	Not at all well					Very well
have apples of the desired variety	1	2	3	4	5	6
have apples available in the quantities required	1	2	3	4	5	6
have apples in the desired size(s)	1	2	3	4	5	6
have apples that are free of pests and disease	1	2	3	4	5	6
have apples that are free of physical injury	1	2	3	4	5	6
have apples that are free of chemical residues	1	2	3	4	5	6
provide apples with the right maturity	1	2	3	4	5	6
have apples that are well graded	1	2	3	4	5	6
have apples that are appropriately packed	1	2	3	4	5	6
have apples that are individually labelled	1	2	3	4	5	6
have apples that store well	1	2	3	4	5	6
have apples that are good looking	1	2	3	4	5	6
have a quality assurance program	1	2	3	4	5	6
able to deliver apples when required	1	2	3	4	5	6
willing to meet my immediate needs	1	2	3	4	5	6
provide apples that are competitively priced	1	2	3	4	5	6
have a reputation for delivering good quality apples	1	2	3	4	5	6
prepared to accept delayed payment	1	2	3	4	5	6
offer a wide range of fresh fruit	1	2	3	4	5	6

6.3 a) What are the most important things that prevent your preferred retail cooperative from meeting your needs?

……
……
……
……

b) What do you think your preferred retail cooperative can do to improve the quality of apples they supply?

……
……
……
……

6.4 **FOR 2003,** what quantity or percentage of the fruit purchased from retail cooperatives fell into each of the following grades?

Variety	Tonnes or %			
	First	Second	Ungraded	**TOTAL**
Granny Smith				
Pink Lady				

6.5 **FOR 2003**, what were the lowest, highest and average prices you paid per tonne for apples, by variety and grade, to your preferred retail cooperative?

Granny Smith

Granny Smith	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

Pink Lady

Pink Lady	First Grade by Size (mm)			Second Grade	Ungraded
	< 64	65 - 79	> 80		
Highest					
Average					
Lowest					

6.6 a) What criteria do you think are most important in your preferred retail cooperative's decision to sell apples to you?

……
……
……
……

b) To what extent **do you believe that you were able to fulfil your preferred retail cooperative's needs** on EACH of the following criteria? On a scale of 1 to 6, where 1 is "not at all well" and 6 is "very well", please indicate how well you think you can meet EACH of these criteria.

	Not at all well					Very well
able to take all the retail cooperative's fruit	1	2	3	4	5	6
provide the retail cooperative with a fair price	1	2	3	4	5	6
offer favourable terms of payment	1	2	3	4	5	6
financially strong	1	2	3	4	5	6
has a good reputation for doing business	1	2	3	4	5	6
offer to provide technical information	1	2	3	4	5	6
willing to provide market information	1	2	3	4	5	6
can transport apples from the retail cooperative's premises	1	2	3	4	5	6
willing to meet the retail cooperative's immediate needs	1	2	3	4	5	6
geographically close to the retail cooperative	1	2	3	4	5	6
have a close personal relationship with retail cooperative	1	2	3	4	5	6
in frequent communication with the retail cooperative	1	2	3	4	5	6

c) What are the most important things that prevent you from meeting your preferred retail cooperative's needs?

……
……
……
……

d) What things do you believe you can do to improve your ability to fulfil your preferred retail cooperative's needs?

……
……
……
……

6.7 a) How would you describe the nature of your relationship with your preferred retail cooperative?

……
……
……
……

b) Can you please name your most preferred retail cooperative (optional)?

……

c) How many years have you been trading with this retail cooperative?

……

6.8 On a scale of 1 to 6, where 1 is "strongly disagree" and 6 is "strongly agree", please respond to EACH of the following statements. Please circle your answer.

	Strongly disagree					Strongly agree
SATISFACTION						
I am satisfied with my transactions with my preferred retail cooperative	1	2	3	4	5	6
My preferred retail cooperative sold their produce at a mutually agreed price	1	2	3	4	5	6
I am satisfied with the price paid to my preferred retail cooperative	1	2	3	4	5	6
My transactions with my preferred retail cooperative have resulted in increased sales revenue	1	2	3	4	5	6
I am satisfied with the activities performed by my preferred retail cooperative	1	2	3	4	5	6
I feel I am adequately rewarded by my preferred retail cooperative	1	2	3	4	5	6
My preferred retail cooperative treats me fairly and equitably	1	2	3	4	5	6
TRUST						
I trust my preferred retail cooperative	1	2	3	4	5	6
My preferred retail cooperative has a reputation for being fair	1	2	3	4	5	6
My preferred retail cooperative is always honest	1	2	3	4	5	6
My preferred retail cooperative often meets my expectations	1	2	3	4	5	6
I have confidence in my preferred retail cooperative	1	2	3	4	5	6
My preferred retail cooperative always considers my best interests	1	2	3	4	5	6
My preferred retail cooperative always keeps their promises	1	2	3	4	5	6
I believe the information provided by my preferred retail cooperative	1	2	3	4	5	6
COMMITMENT						
I expect to continue to interact with my preferred retail cooperative in the future	1	2	3	4	5	6
I expect my relationship with my preferred retail cooperative to continue	1	2	3	4	5	6
It is more cost effective for me to rely on my preferred retail cooperative rather than search for alternative suppliers	1	2	3	4	5	6
COMMUNICATION						
My preferred retail cooperative keeps me well informed on price in the apple market	1	2	3	4	5	6
My preferred retail cooperative frequently asks me how they might improve the level of product quality	1	2	3	4	5	6

My preferred retail cooperative frequently asks me how they might improve the level of product service	1	2	3	4	5	6
My preferred retail cooperative often advises me of potential supply problems	1	2	3	4	5	6
RELATIONSHIP SPECIFIC INVESTMENT						
My preferred retail cooperative is willing to share the risk of crop failure	1	2	3	4	5	6
My preferred retail cooperative provides financial assistance during difficult times	1	2	3	4	5	6
DEPENDENCE						
I am free to choose another retail cooperative at any time	1	2	3	4	5	6
My preferred retail cooperative has the best offer relative to other suppliers	1	2	3	4	5	6
POWER						
My preferred retail cooperative has all the power in our relationship	1	2	3	4	5	6
My preferred retail cooperative controls all the information in our relationship	1	2	3	4	5	6
OPPORTUNISM						
My preferred retail cooperative sometimes acts opportunistically	1	2	3	4	5	6

[THANK YOU]